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Lilly del Caribe, Inc.
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RCRA Part B Permit Renewal Application Revision 2

April 2001

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Lilly

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April 30, 2001

CERTIFIED MAIL/RRR 7099 3400 0006 2903 3519

Raymond Basso, Chief
RCRA Program Branch
U.S. Environmental Protection Agency- Region 2
290 Broadway, 22nd floor
New York, NY 10007-1866

RE: Lilly del Caribe, Inc., RCRA Part B Permit Renewal Application
EPA ID No. PRD091024786
Response to Comments by U.S. EPA

Dear Mr. Basso:

Lilly del Caribe, Inc. ("Lilly") has reviewed the comments provided by the U.S. Environmental Protection Agency, Region 2 on the application for the renewal of our Mayagüez facility's part B RCRA Permit. (EPA's letter dated November 21st , 2000; received November 29th, 2000). Lilly requested additional time to prepare its response to EPA's comments, and was granted until April 30, 2001 to submit its response. Included with this letter is revision 2 of the permit application, which has been updated in response to EPA's comments, as well as a letter, which sets forth a narrative response to each of the comments. Lilly notes that the original permit renewal application (submitted on May 27, 1994; revision 1 submitted on July 2, 1998) was based on the provisions and level of detail in the current, effective RCRA part B permit for the site.

The Hazardous Waste Combustor Maximum Achievable Control Technology (HWC MACT) rule is now effective and requires compliance by October 1, 2002. As Region 2 has approved, Lilly will construct a modernized incineration system in order to comply with the more stringent emission and operating standards of the HWC MACT.

In order to assure timely compliance with the HWC MACT rule by October 1, 2002, Lilly has scheduled operational shakedown and mini-burn testing to begin in February of 2002, followed by initiation of the Comprehensive Performance Test (CPT) in May of 2002. EPA Region 2 has indicated that it plans to renew the entire RCRA Part B permit, incorporating the modernized incineration system, rather than issue a modification to the current RCRA permit to allow operation. In order to achieve the schedule outlined above and meet the upcoming HWC MACT compliance deadline, Lilly would like to work with EPA staff to facilitate review of the renewal application and issuance of the renewed RCRA permit for the Mayagüez facility.

Lilly proposes a meeting with your staff to discuss any remaining concerns with the renewal application. We will contact Ms. Ellen Stein of your staff to set up such this meeting.

If there are any questions about the revised permit renewal application or the associated responses, please contact Eng. Luis O. Laboy at 787- 265-7169 or John Neal at 787-265-7400. Please note that Lilly will be submitting the required HWC MACT CPT plan, which is due one year before beginning the CPT, under separate cover.

Sincerely,
On behalf of Lilly del Caribe, Inc.

Maria A. Crowe

Maria A. Crowe,
President and General Manager

Enclosures

cc:

Aissa Colón, PREQB, w/ encl- Certified/RRR: **7099 3400 0006 2903 3489**

Carl A. Soderberg, CEPD, w/ encl- Certified/RRR: **7099 3400 0006 2903 3458**

Ellen Stein, EPA- RPB, 2 copies w/encl.- Certified/RRR: **7099 3400 0006 2903 3427**

Samuel Ezekwo, w/encl- Certified/RRR: **7099 3400 0006 2903 3397**

LILLY DEL CARIBE, INC.
MAYAGUEZ, PUERTO RICO
EPA ID NO. PRD091024786

RESPONSE TO EPA's LETTER [1] WITH COMMENTS ON THE FACILITY'S PART B PERMIT RENEWAL APPLICATION [2]

A. **PART A APPLICATION:** 270.10(d), 270.11(a) and (d), 270.13

In Section XII of the Part A Application, the facility provides their process design capacities in gallons for the storage units, and BTU's per hour for the incinerator. However, in Section XIV of the Part A Application, the units for each EPA regulated waste to be treated or stored at the facility is provided in tons. Revise the application to provide a density for each of the wastes identified in Section XIV, so that the conversion from the capacity measurement (i.e., gallons and BTU's) to the weight measurement (i.e., tons) can be verified.

Lilly del Caribe Response:

The waste codes listed in section XIV could be managed in three types of waste that have vastly different densities. Those three types of wastes are 1) solid waste in drums (e.g., impregnated filtering media, contaminated personal protective equipment, absorbent materials generated during minor spill cleanups), 2) liquid primary waste and 3) liquid secondary waste. Primary wastes containing larger quantities of ignitable organic materials (with densities of less than 1.0, typically fluctuating from 0.80 to 0.95), while secondary wastes, having larger amounts of water and inorganic salts, show densities larger or equal to 1.0 (0.95 to 1.3). Section XII of the Part A is a design capacity where Section XIV lists annual amounts of hazardous waste that could be managed at the Mayagüez facility. Lilly del Caribe does not believe the Part A application requires the listing of the waste density in the permit application or that section XIV be compared to section XII.

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[1] letter from Raymond Basso (Chief, RCRA Programs Branch- EPA Region 2), dated November 21st , 2000 and received at Lilly on November 29th, 2000.

[2] Second part B renewal application package (revision #1) submitted in July of 1998. The first renewal application (revision 0) was submitted in May of 1994.

A-7. **Specification of Hazardous Wastes:** 270.13(j)

The Part A must itemize each waste in the units at the facility that is required to be permitted. Lines 38 and 39 on page 6.2 , Section XIV of the part A application state that "Pxxx" and "Uxxx" will be stored and treated at the facility. This is unacceptable. The facility must identify the various P and U listed wastes that are to be accepted for storage and treatment at the facility. Revise the Part A accordingly and ensure that the application identifies each waste that will be stored and treated at the facility.

Lilly del Caribe Response:

The Part A application has been updated to reflect the P and U waste codes that would be stored and/or treated at the Mayagüez facility.

B **FACILITY DESCRIPTION**

B-1. **General Description:** 270.14(b)(1)

The general facility description is incomplete. Revise the application to include the following:

- Description of the property
- Brief history of the facility
- Operating dates
- Major process changes that have taken place
- Description of all RCRA regulated units
- Relevant descriptions of the on-site recovery processes for hazardous wastes
- Descriptions of the on-site treatment procedures
- Estimate of the frequency of hazardous waste transfers that occur at the facility.

Lilly del Caribe Response:

Additional details, relevant to the RCRA permit operation in accordance with 40 CFR 270.14(b)(1) has been added in section B-1.

B-3. **Location Information:** 270.14(b)(11)

B-3b. **Floodplain Standard:** 270.14(b)(11)(iii), 264.18(b)
Revise the application to provide detailed information that the facility is designed, constructed, operated, and maintained to prevent washout of any hazardous waste by a 100-year flood.

Lilly del Caribe Response:

The application has been revised to provide the requested information.

B-3b(1). **Demonstration of Compliance:** 270.14(b)(11)(iii), 264.18(b)

The application states that the facility is located within the 100-year flood zone. Therefore, the application must be revised to provide the following detailed information:

- Engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected to result at the site as consequence of a 100-year flood
- Structural or other engineering studies showing the design of operation units (tanks, incinerator) and flood protection devices (e.g. dikes) at the facility and how these will prevent washout.

Revise the application to include all the discussion and documentation necessary to demonstrate that the waste containment and control will not be impacted by a flood situation.

Lilly del Caribe Response:

Refer to Attachment B-2, where the engineering calculations are provided to demonstrate compliance with the 100-yr. flood protection requirements and that no further compensation or modification of the referenced areas is required. The structures at the facility have been previously approved by the agency in the current, effective permit.

C. **WASTE CHARACTERISTICS**: 270.14(b)(2), 264.13(a)

The application does not provide complete information on the characterization of all waste in containers and tanks. Since the Part A includes both storage and treatment of wastes, the Waste Analysis Plan (WAP) must be revised to include complete characterization information for wastes for stored and treated in containers and tanks at the facility.

As the facility is a treatment facility, treatment residues may be generated. The application must indicate how such residues and all restricted wastes are managed and how land disposal restrictions will be addressed. The WAP must be revised to discuss which wastes are managed off site and if they are land disposed. The WAP must be revised to clearly identify all wastes received from off-site sources, all wastes generated on site, and all wastes that are generated on site, managed off site, and then received back at the facility. This information must also include all restricted wastes that are managed at the facility. The application must document the specific Treatment, Storage, and Disposal Facilities (TSDFs) used to manage hazardous wastes off site.

Lilly del Caribe Response:

Lilly del Caribe believes that the Waste Steam Information Sheet (WSIS) system, as described in response to comment C-2 below, provides complete characterization of for waste stored and/or treated at the Mayagüez facility. The Mayagüez facility does not treat wastes in containers or tanks.

The only treatment residue produced by the Mayagüez facility is the scrubber water blowdown. The scrubber water is discharged to the POTW and thus excluded from the definition of solid waste. 40 CFR 261.4(a)(1). Therefore, the land disposal restrictions (LDRs) do not apply to the scrubber water and a one-time notice is maintained in the operating records per 40 CFR 268.7(a)(7). Also, EPA indicated in the Second Third Landban final rule that "scrubber waters from incinerators in compliance with 40 CFR Part 264 Subpart O ... are considered to meet BDAT ... and can be land disposed." (54 FR 26630)

The application makes general statements regarding the characterization of wastes that are stored and treated at the facility. For example, the top of page 4, Section C-1 states that "The Lilly del Caribe facilities, as generators, are knowledgeable of the materials utilized, reactions, products generated, and waste streams produced. This knowledge allows them to provide waste characterization through the WSIS process." However, Section C-2 of the application, which describes the Waste Stream Information System (WSIS) process, simply indicates that process knowledge will be used to characterize the waste. Stating that process knowledge is used is insufficient. The application must be revised to specifically provide detailed process knowledge being used for waste characterization. Provide analytical data or documented process knowledge for all wastes proposed to be stored at the facility. Examples of process knowledge may include Material Data Safety Sheets (MSDS), or published reports.

The Part A and Attachment C-1 both indicate that "P" and "U" wastes will be accepted for treatment and storage at the facility. However, it is insufficient to generically reference "Pxxx," and "Uxxx" wastes and state that "various" chemical substances will be included for treatment. It is understood that there may be "mixtures" of wastes accepted at the facility; however, the facility should have some knowledge, either based on documented process knowledge or laboratory tested knowledge on the specific "P" and "U" codes that are in the wastes. It is understood that it is not always possible to anticipate which products will be off-specification or go unused for some other reason and therefore require storage and/or treatment as hazardous waste. Nevertheless, the facility must make all appropriate attempts to outline the full scope of hazardous wastes which might be stored or treated on site. Furthermore, for all of the wastes, revise the application to include the hazard characteristics, the basis for hazard designation, and provide either process knowledge detail or a laboratory report detailing the chemical and physical analyses of representative samples. Revise the WAP and the Part A to specify each waste code that is or may be accepted for treatment and storage at the facility.

The second paragraph in Section C-1 states that solid phase hazardous wastes "are stored in the permitted hazardous waste storage area until their transportation to an off-site TSD facility." The permit application should be revised to clarify whether Lilly del Caribe provides waste characterization information to the receiving TSD facility for all wastes shipped off site for disposal.

The permit application has been updated to clarify that the waste residuals from Lilly del Caribe-produced wastes that have undergone recovery and treatment at an off-site TSD facility will be characterized following the WSIS process, which is explained further in Section C-2. Also, off-site hazardous waste must be fingerprinted as described in Attachment C-2. Lilly del Caribe does not believe the type of commercial recovery must be listed in the permit application, but will provide it in this response letter. The type of recovery is distillation of organic solvents, which the distillation bottoms are received by the Mayagüez facility.

The permit application has been updated to clarify the nature and extent of the analytical activities performed onsite related to waste treatment support (incineration) and the analytical methods are listed in table C-3. The Waste Analysis Plan is not utilized to characterize waste generated on or off site. The generator departments provide waste characterization analysis, if necessary, and document the results in the WSIS system.

C-1a. **Containerized Waste**: 264.172, 270.15(b)(1)

The application does not provide sufficient container information in Sections C and D of the application. Pursuant to 264.172, the facility is required to ensure that the containers are made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste stored therein, so that the ability of the container to contain waste is not impaired. Although Section D-1a(1) briefly discusses the container compatibility issues, additional information is needed regarding the decision process to be implemented for ensuring waste compatibility with the containers and/or liners. Revise the application to include more specific container compatibility detail.

Section C-1a, last sentence, first paragraph states that "containerized waste with free liquids are stored only in areas with appropriate secondary containment." Revise the application to clearly discuss the secondary containment information; other parts of the application may be referenced for this information. Clearly indicate the methods by which containers with free liquids are identified and segregated. Section D-1b(1) of the permit application indicates that the Paint Filter Liquids Test (SW-846 Method 9095) is used for this purpose under

C-1b. **Waste in Tank Systems:** 264.190(a), 264.191(b)(2), 264.192(a)(2)

Revise the application to demonstrate that the tank construction materials are compatible with the wastes stored in the tank. Insufficient detail has been provided to ensure that waste compatibility determinations are adequate for the hazardous waste tank systems. The facility must specifically demonstrate that the tank system is adequately designed with sufficient structural strength to ensure that it will not collapse, rupture, or fail due to waste incompatibility.

Demonstrate the absence or presence of free liquids in the stored wastes. This assessment may be performed using the Paint Filters Liquids Test (Method 9095A), as described in EPA's guidance manual entitled *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (USEPA, June 1997)(SW-846).*

The application indicates that three types of tanks are maintained on site, referenced as feed tanks, storage tanks, and receiving tanks. Additional detail should be provided with regard to blending of liquid wastes in the feed tanks. At the bottom of page 8, Section C-2a, the application states that "liquid wastes may be blended with other liquid wastes to obtain the required waste characteristics. Blended wastes will be resampled and reanalyzed to assure the waste characteristics are within acceptable ranges." Expand the permit application to provide a detailed analysis of the hazardous wastes prior to blending, the blending ratios, and a description of blending procedures. Identify the "required waste characteristics" and "acceptable ranges" referenced in this section of the application.

Lilly del Caribe Response:

The permit application does contain a demonstration of the compatibility of the tank materials with the waste to be stored in each tank. Attachments D-1, D-2, D-3, D-4, D-5, D-6 and D-7 in the permit application contain the tank certifications for the permitted tanks. Each certification contains a section, which presents the compatibility of the tanks with the stored wastes. Lilly del Caribe believes the certifications provide the information required by 40 CFR 264.192(a)(2).

The second paragraph of Section C-1e notes that, while Table C-1 presents a listing of the historical composition of liquid hazardous wastes incinerated at the facility, "liquid wastes may also contain other organic compounds listed in Appendix VIII of 40 CFR Part 261." The application must be revised to identify any hazardous organic constituents listed in 40 CFR Part 261, appendix VIII which may be present in the waste to be burned. Also, Lilly del Caribe should revise the application to identify if any constituents are excluded from analysis and to present the basis for such exclusion.

The WAP must be revised to include a detailed engineering description of the incinerator including:

- Manufacturer's name and model number of incinerator
- Type of incinerator
- Linear dimensions of incinerator unit including cross-sectional area of the combustion chamber
- Description of auxiliary fuel system
- Capacity of prime mover
- Description of automatic waste cutoff systems
- Stack gas monitoring and pollution control monitoring system;
- Nozzle and burner design
- Construction materials
- Location and description of temperature, pressure, and flow indicating devices and control devices.

Specific reference to other parts of the application which contain this information is acceptable. This comment also applies to Section D-5 of the permit application; no independent detail on the incinerator unit was provided in that section for review against applicable RCRA requirements.

Table C-1 reportedly provides physical and chemical data on primary and secondary wastes, summarized for 1995, 1996, and 1997. The permit application should clarify if these data were generated via sampling and analysis of waste from containers in storage, or from treatment operations during previous trial burns. Furthermore, the sampling and analysis techniques used to derive the results presented in this table should be identified.

For the trial burn, provide a detailed description of sampling and monitoring procedures, include sample and monitoring locations along the system, equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analyses.

Refer to Section D for details and engineering description of the Brule incinerator. As Lilly has discussed with EPA, the HWC MACT rule requires compliance with the air emissions standards for hazardous waste combustors by October 1, 2001. Lilly submitted a Class 1a modification for the Callidus unit on September 29th of 2000, which provided a general description of the incineration system. More detailed information on the Callidus unit and the compliance test conditions will be provided to EPA shortly under separate cover.

C-2. **Waste Analysis Plan:** 270.14(b)(3), 264.13(b) and (c), 264.341

This section of the permit application states that the facility follows a corporate WSIS "which requires the generators to use their knowledge of the generating process or chemical analysis to characterize their wastes for off-site treatment and disposal." Furthermore, the last paragraph in this section references a "Waste Stream Information Sheet [to be] completed by the Environmental Compliance Department before accepting hazardous was for storage in the control areas." To facilitate review of the facility's waste characterization and waste tracking processes, provide a copy of the Waste Stream Information Sheet in this permit application. In addition, recordkeeping requirements for the information sheets should be detailed in the permit application.

For each hazardous waste stored and treated at the facility, the WAP must be revised to provide process knowledge or a laboratory report detailing the chemical and physical analyses of representative samples. At a minimum, the analyses must include all information necessary to treat, store, or dispose of the waste in accordance with 40 CFR Parts 264 and 268 requirements. The application must be revised to specifically provide the process knowledge that is being used for the waste characterization. Published data on the hazardous waste or data gathered from similar process may be used. Provide analytical data or documented process knowledge for all wastes proposed to be stored. If appropriate based on the level of detail provided, completed Waste Stream Information Sheets may also be submitted to show consistency in waste composition over time and further support the use of generator knowledge in properly characterizing waste.

requires documentation of either all of the waste generated on-site or the record keeping instruments.

C-2a. **Parameters and Rationale:** 264.13(b)(1)

Section C-2a lists waste characterization parameters addressed on the Waste Stream Information Sheets; one such parameter focuses on "metals content." Revise the permit application to identify each metal to be measured in the waste streams.

Attachment C-1 identifies hazardous wastes stored and/or treated at the facility. According to 264.13(b), the WAP should specify parameters for which each waste will be analyzed to ensure proper and complete waste characterization. Section C-2a and Table C-4 present detail on parameters selected by the facility for waste analysis and the rationale to support parameter selection. However, Section C-2a does not identify the following parameters to be tested:

- Ignitable waste
- Corrosive waste
- Reactive waste (the WSIS program calls for determination of flash point, pH, and reactivity of the wastes)
- Benzene
- Carbon tetrachloride
- Chlorobenzene
- Chloroform
- Cresol
- 1,4-Dichlorobenzene
- 1,2-Dichlorobenzene
- 1,1-Dichloroethylene
- 2,4-Dinitrotoluene
- Heptachlor
- Hexaclorobenzene
- Hexachlorobutadiene
- Methyl ethyl ketone
- Nitrobenzene
- Pyridine
- Tetrachloroehtylene
- Trichloroethylene
- Vinyl chloride
- Spent halogenated solvent wastes
- Appropriate "P" and "U" wastes.

Lilly del Caribe Response:

Currently, metals testing is not required for operation of the facility. For compliance with the HWC MACT rule, the testing of metals will be determined in accordance with the requirements for the Comprehensive Performance Test and the Feedstream Analysis Plan. Therefore, references to metals testing have been removed from the Waste Analysis Plan.

The Waste Analysis Plan has not been updated to include the parameters requested by EPA since the waste generators provide this information in each WSIS. As described in response to Comment C-2, all waste characterization data (generator knowledge or analytical results) is recorded in a WSIS for each waste stream. Lilly del Caribe believes the generator-supplied information is sufficient to properly characterize the waste received at the Mayagüez facility and that further testing would be unnecessary duplication.

Lilly del Caribe would like to clarify that Table C-3 is a list of analytical methods used to determine the values of the parameters listed in Table C-2.

C-2b. **Test Methods:** 264.13(b)(2)

EPA has issued more recent updates to SW-846 Manual. The application should be revised to clearly indicate that the most recent approved version of the SW-846 Manual will be used for each analyses.

Several deficiencies have been identified in Table C-3 addressing liquid waste analytical methods. Specific concerns are detailed in the following bullets.

- The table identifies multiple sample preparation/extraction methods for several parameters. For example, for antimony, the table identifies "SW-846 6010, 6020, or 7000 series." The permit application should clarify in what instances one analytical method will be used over another, and how this selection will be made.

Lilly shall review its procedures based on updated versions of SW 846 revision or any scientifically sound and worldwide accepted entity, such as ASTM. All specified methods would be used if a significant improvement in the accuracy or precision were anticipated. Please refer to updated tables C-3 and C- 4 for detailed information on what parameter test, referenced method, frequency of analysis and responsible analyst is defined for our wastes.

At Lilly, as recommended in SW-846 methods, the analysts consult the disclaimer statement at the front of the SW-846 manual for guidance on the allowed flexibility in the choice of apparatus, reagents and supplies. The analyst or technician will make that determination, based on her or his knowledge and experience and the particular methods specifications and possible modifications. Analytical standard operating procedures, written in Spanish,address each selection and available troubleshooting options. Lilly believes that ASTM, ANSI and AWWA are renowned independent technical organizations that develop and verify the accuracy and precision of their analytical methods, which could be used in addition to the SW846 methods. In addition, since a large portion of the Waste Analysis Plan will be removed from the permit when the notification of compliance is submitted with the HWC MACT, providing additional detail beyond that which is required in the current, effective permit, does not seem reasonable. Table C-3 has been updated to correct minor typos identified.

Lilly does not include TCLP (Toxicity Characteristic Leaching Procedure) nor other methods to determine RCRA hazardous characteristics (ignitability, corrosivity and reactivity), or suspended solids constituents in Table C-3 because these methods would be used by the generating areas during their waste determination process and will be completed if necessary during the WSIS preparation and approval. "P" or "U" EPA codes would be assigned to the waste stream by the generator based on the chemical use (off spec chemicals) and no analytical methods would be applicable.

Lilly will follow the appropriate analytical methods mentioned in this section, which, depending on the parameter to be analyzed specifically addresses the preservation techniques or methods to be used (e.g., acid or alkaline solutions, cool conditions, etc.). Lilly has updated the application to indicate that appropriate methods will be followed.

C-2d. **Frequency of Analysis:** 264.13(b)(4), 264.341

The WAP should be revised to state how often hazardous wastes stored at the facility will be resampled. Revise the application to state that the waste streams will be analyzed annually, at a minimum, as well as when a change occurs in the production process or other operations which may alter waste composition. If process knowledge is used, the permit must also indicate how often this information is updated. Section C-2a of the application states that "to maintain reliability and accuracy, the WSIS for each waste stream will be reviewed on a frequent basis," but the term "frequent basis" has not been clearly defined.

Table C-2 identifies the frequency at which incinerator waste feed is analyzed. Expand the permit application to discuss when waste analysis and characterization is accomplished for liquid wastes and waste received from off-site generators. At a minimum, recharacterization must be performed annually, or more frequently as appropriate based on the following occurrences:

- When on-site production processes or operations generating the wastes have changed
- When the facility is notified that the off-site process or operation generating the wastes has changed
- When receiving hazardous waste from off site do not match the wastes designated on the accompanying manifest
- When the facility receives or uncovers information indicating the waste compositions have changed for reasons other than those noted above.

criteria set forth in the WAP, and that such wastes include only wastes specified in Part A of the permit application and in the WAP.

Page 3 of Attachment C-2 indicates that, during the fingerprinting process, the facility "may perform additional tests to ensure permit compliance, proper waste stream segregation or, incinerator operational performance." The application should be clarified to identify examples of other parameters for which analyses may be completed.

A table is included on page 3 of Attachment C-2 to indicate the number of drums to be sampled. The application states that the numbers provided are based on Military Standard 105D. Describe this standard and the statistical method used to determine a representative number of samples of incoming wastes (i.e., the number of drums to be sampled). Provide this information with regard to visual inspection, as well as chemical testing, of the wastes.

Section C of Attachment C-2 identifies analytical methods that will be used for waste analysis. Method 8270 is identified for determining organic chloride content, and ASTM 4809 is listed for measuring the heat of combustion. However, neither of these methods is included on Table C-3 of the application. The application should be revised for consistency throughout.

Section D of Attachment C-2 states that "[In] special circumstances, hazardous waste shipments from off-site which are to be incinerated will not be fingerprinted in an effort to reduce operator/sampler/analyst exposure to the waste stream's toxic constituents." Revise the application to clearly identify which wastes fall into this category. Furthermore, indicate how the use of "tamper-evident seals on the shipping containers," as recommended in the last sentence of Attachment C-2, will enable the facility to verify that the received waste actually matches information on the shipping manifest.

Attachment C-2 of the Waste Analysis Plan has been updated to clarify Lilly's intent to protect its employees from exposure to toxic constituents during sampling activities. If the NFPA (National Fire Protection Labeling) system categorizes the stream as a level #3 or #4 on the blue (health) diamond symbol, Mayagüez will not open the drum for sample collection. Instead of sampling at the TSD, the generator will place tamper evident seals on every opening of the container. If upon receipt at Mayagüez, a tamper evident seal appears compromised, the container will be either sampled or sent back to the generator.

C-2f. **Additional Requirements for Ignitible, Reactive, or Incompatible Wastes:** 270.14(b)(3), 264.13(b)(6), 264.17

Section F of the permit application is referenced for information on the handling of ignitable, reactive, and incompatible wastes. Section F-5a states that "smoking is not permitted inside the plant's operational areas." Additional detail should be provided to define and identify these "operational areas." For example, the permit should clarify if smoking is prohibited only in the areas where treatment occurs, or in both treatment and storage areas. Revise the application to specifically verify that "No Smoking" signs are conspicuously placed wherever ignitible or reactive wastes may pose a hazard.

Since the facility stores and treats ignitible, reactive, and incompatible wastes, the permit application should verify that the facility takes precautions to prevent reactions which:

- Generate extreme heat or pressure, fire or explosions, or violent reactions
- Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or environment
- Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions
- Damage the structural integrity of the device or the facility.

The permit application must describe methods used to meet additional requirements for managing, storing, and treating ignitible and/or reactive wastes. Section F-5c states that "containers of ignitible or reactive wastes are located at least 50 feet from the facility property line," but the application does not discuss how reactive and ignitible wastes are segregated in the container storage area. No diagram is provided to show the designated storage location of these types of

C-3a. **Waste Analysis:** 270.14(a), 264.13(a)(1), 268.1, 268.7, 268.9, 268.40

Page 1, Section C-1 of the application states that "hazardous solid phase wastes from Lilly del Caribe, Inc. include, but are not limited to, laboratory samples, filtration aid, filter media, and personal protective equipment. These solid hazardous wastes are stored in the permitted hazardous wastes storage area until their transportation to an off-site [TSDF]." It is unclear whether the wastes disposed off site will be land disposed. Revise the application to clearly address the requirements of this section.

For each hazardous waste that is stored at the facility and sent off site for disposal, provide analytical data necessary to determine whether the waste is a restricted waste and whether the waste is being managed properly under the requirements of 40 CFR Part 268. If process knowledge is used to make this determination, this information must be adequately documented.

The facility must include a WAP that provides the procedures (e.g., sampling, analytical suite, frequency of analysis) for testing waste or an extract of the waste for compliance with land disposal restrictions. Wastes that do not meet treatment standards specified in 40 CFR Part 268 are prohibited from land disposal unless (1) a national capacity variance has been granted, (2) an exemption pursuant 268.6 has been granted, (3) a case-by-case extension has been granted pursuant to 268.5 or (4) a treatability variance has been granted pursuant to 268.44. In addition, for restricted wastes shipped off site from the facility for disposal, Lilly del Caribe must document that they will provide the TSDF with appropriate generator notification information, as required by 268.7(a) and 268.9(d).

Lilly del Caribe Response:

For each hazardous waste stream that is sent to a third party disposal facility, Mayagüez is required by the disposal facility to complete a waste profile. The waste profile includes analysis of a sample of the waste stream, usually repeated on an annual basis, to determine if the landfill can accept the waste and if the LDR treatment standards are met. Mayagüez provides process knowledge to the landfill to minimize the amount of analytical work. Lilly del Caribe does not believe this information must be included in the permit application since the generator typically completes this task prior to storage at the HWCSA.

C-3a(3). **Listed Wastes:** 270.14(c), 264.13(a)(1), 268.7, 268.33, 268.36, 268.40, 268.45

Revise the application to describe the procedures that are used to determine whether a listed waste meets the applicable treatment technology for the wastes shipped to off-site TSDFs. Documented process knowledge may be used as appropriate. Where treatment standards are based on concentrations in the waste extract, the facility must use the TCLP to determine if the wastes meet treatment standards.

C-3b. **Notification, Certification, and Recordkeeping Requirements:** 270.14(a), 264.13, 264.73, 268.7, 268.9(d)

According to Section C-1, some hazardous wastes generated at the facility are sent for treatment off site. On page 17, Section C-3 of the permit application states that "if waste does meet the treatment standards, the notification and related certification will be maintained in the operating record until closure." The WAP must be revised to provide more detail regarding notification and certification in accordance with land disposal restrictions requirements. The WAP must be revised to present procedures for preparing such notifications and certifications. Furthermore, the application must be clarified to indicate whether any residues are generated from the treatment of the wastes, and to discuss management of these waste residues.

Lilly del Caribe Response:

Please refer to the response to comment C-3a(1) above.

The application has been clarified to indicate that residues are generated from the treatment of hazardous waste (see Section C-3a).

C-3b(1). **Retention of Generator Notices and Certifications:** 270.14(a), 264.13, 268.7(a), 268.40

Page 2 of Section C indicates that the facility handles and treats "waste residuals from Lilly del Caribe produced wastes that have undergone recovery or treatment at an off-site commercial TSDF." The application must be revised to adhere to the requirements of 268.7(b). Since the facility sends the waste to be further managed at a different TSDF, Lilly del Caribe must comply with the notice and certification requirements applicable to generators, as specified in 268.7(a).

For any wastes that are determined to be restricted, ensure that the following notices and certifications submitted by the initial generator of the waste (where applicable) are reviewed and maintained:

- Notice of restricted waste not meeting treatment standards in 268.40 including the information listed in 268.7(a)(2)

Caribe must comply with the notice and certification requirements applicable to generators under 268.7. Revise the application to address these requirements.

Lilly del Caribe Response:

Section C-3b has been updated to indicate the Mayagüez facility complies with the requirements of 268.7(b) for the treatment residues generated at the TSD portion of the facility.

C-3b(6). **Recyclable Materials:** 270.14(a), 264.13, 268.7(b)(6)

The application states that waste residuals from the facility may undergo recovery at an off site commercial TSDF. Based on this statement, the permit application should be revised to indicate that the facility will submit a notice and certification to the EPA Regional Administrator with each shipment of waste describing the waste and applicable treatments standards.

Lilly del Caribe Response:

Lilly del Caribe is not providing the requested information since the waste residuals mentioned in the permit application are not recycled in a manner constituting disposal, as specified in 40 CFR 268.7(b)(6).

C-3b(7). **Recordkeeping:** 264.73, 268.7(a)(5), 268.7(a)(8), 268.7(d)

Since the facility manages wastes generated on site, Lilly del Caribe must: (1) determine if the waste is restricted from land disposal and keep documentation of that determination, and (2) maintain documentation to indicate where restricted wastes were treated, stored, and/or disposed. Provide examples of forms used for such documentation.

Indicate whether process knowledge is used to determine compliance with land disposal restrictions, or if a representative sample of the waste is tested. Ensure all information is documented.

C-3c(2). **Restricted Wastes Stored in Tanks:** 268.50(a)(2)(ii)

The facility must demonstrate that tanks used by the facility for storage of restricted wastes are clearly marked with a description of the tank contents, the quantity of each hazardous waste received, and the date each period of accumulation begins. Alternately, the facility may demonstrate that such information will be recorded and maintained in the operating record at the facility.

Lilly del Caribe Response:

Section C-3c(2) has been added to the permit application to provide the requested information.

D. **PROCESS INFORMATION**

Lilly Del Caribe comment on Section D—Incineration

Lilly requests withdrawal of Attachment D-8 (Trial Burn Plan, Rev 1, March 1999) and Attachment D-9 (DRAFT Workplan for a Multi-Pathway Tier II Health Risk Assessment, June 1998) from the RCRA permit renewal application as it was submitted in 1998. These attachment numbers have been utilized for other attachments to the current permit application. With the promulgation of the HWC MACT rule on September 30, 1999, the requirements for a Comprehensive Performance Test (CPT) Plan (40 CFR 63.1207) supercede the requirements under RCRA for a trial burn plan. The CPT plan will be submitted under separate cover. Similarly, the Risk Assessment Workplan has been superceded by subsequent versions submitted under separate cover to the Agency and also by the Agency's direction to utilize the recently published "Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities" (EPA530-D-98-001A,B,C) instead of the previously prescribed guidance.

Lilly anticipates that the RCRA permit for the Mayagüez facility could be renewed before the replacement incineration system is fully constructed and approved for operation. Therefore, Lilly requests that the renewed RCRA permit, when issued, include operating conditions for the

Lilly del Caribe Response:

The permit application, Section D-1a (2) and Attachment D-7, was updated to indicate that the HWCSA is located in dike #5. Also, the permit application has been revised to indicate a consistent name of "Hazardous Waste Container Storage Area, (HWCSA)".

D-1a(1). **Description of Containers:** 270.15, 264.175(a) and (b), 264.177

In Section D-1a(2) of the permit application, the facility indicates that the maximum total volume of liquid wastes to be stored in the HWCSA is 50,000 gallons. This stated volume limitation is significantly less than the volume that could be stored in the HWCSA based on a secondary containment capacity of 100,105 gallons with the anti-flood gate open. Clarify whether the volume limitation is based on physical constraints within the warehouse (e.g., container sizes, required aisle spaces, and maximum pallet stacking heights), or other factors that limit total container waste volume to 50,000 gallons. Also, for consistency with the Part A permit application, clarify Sections D-1a(2) and D-1b(3) to indicate that the maximum quantity of all hazardous waste (with or without free liquids) to be stored in containers at the HWCSA is 50,000 gallons, regardless of the number of different containers used.

Revise the application to include actions to be taken if containers holding hazardous wastes are not in good condition or found to be leaking. The application should specifically state that, if a container begins to leak or is not in good condition, the facility will transfer hazardous waste from the damaged container to a container in good condition.

Sections D-1a(1) and D-1b(2) indicate that drums used for hazardous waste storage at the facility may be new, used, or reconditioned. This section also includes a brief discussion of waste compatibility. The application should be revised to provide documentation on determining compatibility between hazardous wastes and the various containers. Since the containers may have been previously used, there is the potential for incompatibility between wastes. The permit application should indicate that the containers will be rendered empty in accordance with 261.7 and decontaminated (if necessary) prior to reuse. If this is not the case, the permit application should be expanded to detail procedures and schedules for ensuring that wastes

leaking. The permit application, Section D-1a(1) has been clarified to state that containers will be rendered empty per 40 CFR 261.7, and rinsed if necessary, prior to reuse. The permit application was updated to clarify the site's approach on waste compatibility, please refer to the discussion on section C and to Table D-1 on section D, for detailed description on how Lilly ensures proper waste characterization and chemical compatibility among materials and their containers.

The containers already classified as empty, per 40 CFR 161.7, can be reused. Proper re-use of a container will be achieved by taking in consideration the nature of the previous waste and the future use,

D-1a(2). **Container Management Practices:** 264.172, 270.15(b)(1)

Section D-1a(2) of the permit application indicates that each drum of hazardous waste is inspected prior to entering the HWCSA to ensure that the units are properly closed and labeled. The application also indicates that improperly prepared containers are returned to the generating department for correction. To minimize the potential for spills from improperly closed containers during transit across the plant, it is recommended that the containers be inspected prior to loading for transfer to the HWCSA. Containers known to be improperly closed should never be moved.

All containers should be adequately labeled with waste identification information prior to being transferred to the HWCSA. Additional characterization should not be required. For this reason, the facility should provide additional detail as to the nature of and need for sampling containers in this area as noted in Sections D-1(a)(2) and D-1(b)(3) of the application.

According to Section D-1a(2), it appears that the stainless steel tote bins are placed directly onto the floor of the HWCSA, rather than on pallets. Since these containers are not elevated, and since the concrete floor of the HWCSA does not appear to be sloped, the permit application must be modified to explain how the secondary containment conditions in 264.175(b)(2) are being met and how the tote bins will be protected from contact with accumulated liquids.

Revise Section D-1a(2) to indicate whether the 250-gallon tote bins will be stacked within the HWCSA. Also revise the container portion

from soaking into and contaminating the concrete floor itself. If the floor is lined or treated with a commercial coating to minimize infiltration of waste, such detail should be documented in the permit application, along with relevant maintenance requirements.

Section D-1a(3)(a) of the permit application indicates that the concrete base of the HWCSA is "constructed of reinforced concrete which provided adequate structural integrity to support the contents of the warehouse." However, the application provides insufficient detail with which to evaluate or verify structural integrity of the base. Construction and maintenance details should be provided for review, along with any other material used by the facility to determine that the HWCSA floor is structurally sound and capable of withstanding expected loads (including an appropriate factor of safety). Construction diagrams, independent structural assessments (if any), and maintenance records (indicating the presence or absence of cracks and other signs of failure in the base) should be included to assist in making this determination.

Lilly del Caribe Response:

The application has been revised to include a statement that the HWCSA floor has been treated with a commercial coating compatible with the hazardous wastes managed within the area. Construction diagrams have been added to provide the structural details requested.

D-1a(3)(b). Containment System Drainage: 264.175(b)(2), 270.15(a)(2)

Section D-1a(3) of the permit application package states that the concrete floor of the HWCSA is sloped toward a small pit in the southeastern corner of the unit. Figure D-1 does not clearly identify sloped floors in the warehouse area (with the exception of the entrance/exit ramp). Revise Figure D-1 to clearly depict the sloped floors. If the floors are not sloped, the permit application should be revised to note this information. Finally, both the text and figure should be expanded to reference and provide complete specifications (e.g., dimensions, depth, and location) for the containment pit and transfer station sump.

contained, inspected, and analyzed if suspected to be contaminated. The text should indicate what criteria will be used to determine if such precipitation has been contaminated and should be sampled for analysis prior to disposal or incineration. Section D-1a(3)(e) of the permit application includes no provision for cleaning the container storage area or containment sump following an inadvertent release of hazardous waste within the unit. For this reason, it is possible that accumulated wind-blown rainwater may be impacted by residual contamination on the HWCSA floor or in the containment sump area without showing visible or olfactory signs of such contamination.

Both the WAP and Section D-1a(3)(e) of the permit application should be modified to identify waste characterization parameters and analytical techniques to be used in evaluation of liquid removed from the HWCSA containment system. It is insufficient to simply state that the analyses will be completed according to SW-846. Furthermore, for the reasons discussed in the preceding comment, additional detail should also be provided with regard to criteria to be used to determine if any analysis is necessary.

Lilly del Caribe Response:

Section D-1a(3)(e)_has been updated to indicate that rain water will be collected from the HWCSA and transferred to incineration.

D-1b(1). **Test for Free Liquids:** 270.15(b)

Revise the application to include the test results or other documentation or information to show that the wastes do not contain free liquids. The application states that SW-846 Method 9095 will be used for the Paint Filters Test. Revise the application to specify Method 9095A, the most recent revision of this method. Indicate how process knowledge is used to determine if a container of waste "will pass or fail the Paint Filters Test" (i.e., provide the documented process knowledge that will be used to make this determination).

Lilly del Caribe Response:

Since the hazardous waste container storage area (HWCSA) complies with 40 CFR 264.175(b), 40 CFR 246.175(c) does not apply. Therefore, all of section D-1b was removed from

Lilly del Caribe Response:

See Lilly's response to comment D-1a(2) third paragraph, which addresses this matter. The permit application, Section D-1a(2), has been revised to clarify that containers from offsite facilities are not accepted for storage until they are characterized.

D-1b(4). **Container Storage Area Drainage:** 270.15(b)(2), 264.175(c)

Section D-1b(3) and D-1b(4) should be clarified to note that all containers of solid hazardous waste (i.e., drums and fiber boxes) are stored on wooden pallets to prevent contact with standing water or spilled waste.

Lilly del Caribe Response:

Section D-1a(2) of the permit application has been updated to clarify when pallets are used. The application also clarifies that certain DOT containers like tote bins or other bulk containers are designed and constructed to have pallet structures permanently attached to their base.

D-2. **Tank Systems:** 270.16, 264.191-194

The discussion in Section D-2b(1) of the permit application should reference Tank T-13C as the unit being constructed in 1998. This unit appears to have been included in the Process Design Capacity detail of the Part A permit application (Section XII). Table D-1 also references Tank T-13C, providing general detail on its construction specifications. However, the application package does not include specific systems and operation detail, nor does it provide a proper assessment of the unit. RCRA regulations in 264.192(a) require submission of a written assessment, reviewed and certified by an independent qualified registered professional engineer, attesting to the fact that the tank system has sufficient structural integrity and is acceptable for storing and treating hazardous wastes. Until this material is provided, this unit cannot be considered for permitting under RCRA.

design and construction of the spill containment area, tank base, and tank.

The application should indicate that each foundation and/or base is capable of providing support to the tank and secondary containment system, resistant to pressure gradients above and below the system, and capable of preventing failure due to settlement, compression, and uplift.

Tank schematic diagrams were not included in the permit application for Tanks T-13B, T-14B, and T-14C. Furthermore, Attachment D-6 does not indicate specific construction material for these tanks. Table D-1 indicates that the tanks were constructed of carbon steel, but this cannot be verified.

Lilly del Caribe Response:

Table D-1 was revised to indicate the location of the tanks, which can also be found in the site plan drawing provided in Figure A-3. The pictures provided in Figure A-6 also demonstrate the location of the referenced tanks.
Site security and emergency procedures are addressed in section F of the application. Additional information (including updated drawings) was incorporated in section F to clarify the Agency questions. Vehicular traffic routes are provided in Figure B-9 on section B. Attachment D-12 includes a typical process flow diagram for the permitted tanks.

Attachment D-6 and Figure D-3 indicate that the material of construction of the tanks is A-36, which is carbon steel. Additional tank schematics for tank 13-B, 14-B and 14-C are provided on that attachment, indicating that the Puerto Rico building codes were followed during the construction of the containment area.

Attachments D-1, D-2, D-3, D-4, D-5, D-6 and D-7 provide drawings with the details requested in regards to the seismic and wind speed loads. Table D-1 on the application has been revised to contain that information. Please refer to general structural note # G7 on Attachment D-11 (Modifications to the Existing Tanks Farm Area), where the construction specifications of the 12,000 gallons tank containment area indicates that it was designed to withstand the seismic

provisions are also clarified in the section F of application. Process flow diagrams for 12k and 50k tanks can be found on Attachment D-9 & Figure D-2B respectively.

Refer to Lilly's answer to EPA's comment D-2e for tank overfill and wastes cutoff systems.

D-2a(3). **Diagram of Piping, Instrumentation, and Process Flow:** 270.16(d)

Figures D-2 and D-3 were presented in the permit application package to meet the requirements of 270.16(d), however these figures show only general tank schematics. With the exception of one general process flow diagram in Attachment D-2, the required figures are missing from the application. The facility should prepare and provide figures to adequately present process flow of waste (including interaction with production systems and other waste management units), piping and other ancillary equipment associated with each tank system, and instrumentation used to operate and monitor each system.

A review of inspection reports in Attachments D-1 through D-6 indicates that accessory and monitoring systems (e.g., complete piping, instrumentation, waste level monitors, overfill controls) were not in place on Tanks T-7, T-13, and T-14 during installation inspections conducted in accordance with 264.192. The associated reports note only that ancillary equipment proposed by the facility for use on the replacement tanks was similar to that used on the original tanks. A limited amount of detail is provided on the proposed overfill prevention system, level detection monitors, the combination conservation vent and flame arrestors, and the tank mixer. If these components were not installed at the time of inspection, it is unclear how the independent, qualified, registered, professional engineer was able to certify to the fact that the tank system met all requirements in 264.192(a)(1). No information has been provided to indicate that formal inspections of the installed accessory equipment were subsequently completed. The presence and adequacy of required support systems cannot be verified for all tanks.

Section 1c of Attachment D-4 presents specification details for ancillary equipment related to Tank T-14. According to the text, new piping was constructed using SA 312-304 stainless steel; according to the assembly profile schematic however, the piping was made of

compatible with the tank systems, wastes already present in the tanks, and waste residues left behind after emptying the tanks.

Lilly del Caribe Response:

The waste characterization process described in section C of the application ensures that no incompatible or reactive wastes are managed in the permitted tanks. The site plan provided in Figure A-4, which is at scale, clearly indicates that the permitted tanks meet the referenced distance requirements. All the RCRA permitted tanks will manage ignitable wastes, which are never managed in the presence of sources of ignitions or sparks, when appropriate nitrogen purged electrical panels are also installed in certain areas. Additional details on security procedures described in section F address the prevention measures for fire protection (open flame permit, etc).

D-2b. **Existing Tank Systems:** 264.191

The facility should clarify the statement in Section D-2a of the permit application, which dismisses the need to comply with existing tank requirements, to indicate that the hazardous waste tanks currently in use at the facility were installed and initially placed into service after July 14, 1986.

Lilly del Caribe Response:

All permitted hazardous waste tank systems were placed into RCRA use after July 14, 1986. Section D-2a has been corrected to reference the correct year, 1986 not 1996. Table D-1 gives the year of construction of each tank.

D-2c. **New Tank Systems:** 264.192

D-2c(1). **Assessment of New Tank System's Integrity:** 270.16(a) and (e), 264.192(a)

This permit application does not address structural integrity of the underlying concrete dike foundation for each tank system. No details are provided with regard to condition of the concrete floor within the diked areas, nor has information been provided to ensure that the tanks have been adequately anchored. Instead, tank assessments in the application package indicate that the replacement tanks are

D-2c(2). **Description of Tank System Installation and Testing Plans and Procedures:** 270.16(f), 264.192(b) through (e)

The permit application presents no specific detail on support for or protection of ancillary equipment, as required by 264.192(e). Revise the application to include this information.

Tank integrity test results provided in Attachment D-2 reference Tank T-3. It is a topographical error, should be Tank T-13.

The certification of the anchor bolts indicates that since the anchor bolts and foundation are existing, the embedment of the bolts and the foundation capacity and stability could not be checked. The permit application should include additional documentation on the foundation capacity and stability of the tanks.

Lilly del Caribe Response:

Lilly has corrected the typographical error on the reference documentation for tank 13. The referenced documentation conforms to tank 13 drawing # 7533-1-1 and contract/job # 7553-JV, which match in both the inspection record and the drawing provided for tank 13, included in Attachment D-2.

Section D-2f(1)(d) of the permit application has been revised to clarify the information on ancillary equipment protection. Attachment D-11 provides the requested information on the anchors and foundations.

D-2d(1). **Plans and Description of the Design, Construction, and Operation of the Secondary Containment System:** 270.16(g), 264.193(b) through (f)

Section 4 of Attachment D-3 discusses the need for reapplication of the black polypropylene Masil 292 liner to ensure impermeability of the concrete dike foundation beneath Tank T-13A. This effort was to be completed during the week of January 12, 1998, and documented in a letter prepared by the facility and attached to the installation

decontamination of the unit following a spill of hazardous waste, as well as the means by which accumulated storm water will be evaluated to ensure that it is uncontaminated prior to release from the diked area.

Lilly del Caribe Response:

The application has been revised to describe the actual secondary containment capacity of the dike and sump system, reflecting the wall elevations and procedures for removal of accumulated rainfall.

D-2d(1)(c). Requirements for External Liner, Vault, Double-Walled Tank or Equivalent Device: 270.16(g), 264.193(d) and (e)

Section D-2f(1)(b) of the permit application indicates that storm water may be collected within the diked containment area. To ensure that the external liner has sufficient capacity to contain both hazardous waste and accumulated precipitation, the amount of storm water expected to be generated during a 25-year 24-hour rainfall event should be specified, as required by 264.193(e)(1)(ii). *For* further evaluation, the permit should also specify the 100-year rainfall data referenced in several of the tank-specific attachments.

Lilly del Caribe Response:

Attachment D-10 shows both the 100 yr and the 25yr rain data, obtained from the Generalized Estimates of Probable Maximum Precipitation and Rainfall-Frequency Data for Puerto Rico and Virgin Islands (Technical Paper No. 42) of the US Department of Commerce.

D-2d(1)(d). Secondary Containment and Leak Detection Requirements for Ancillary Equipment: 270.16(g), 264.193(f)

Section D-2b(2) of the permit application should be clarified to note that the subject tanks and all associated ancillary equipment are located completely above grade. RCRA regulations for secondary containment of ancillary equipment vary based on the location and accessibility of the system components. According to 264.193(f), minimal secondary containment requirements apply to aboveground ancillary equipment that is visually inspected on a daily basis. The facility must confirm that the subject hazardous waste tanks systems meet these criteria.

of the equipment which was installed. Lilly has verified that this equipment is installed in all the tanks.

F. PROCEDURES TO PREVENT HAZARDS

F-1. **Security:** 264.14, 270.14(b)(4)

Provide a drawing that clearly shows the location of all security equipment (i.e, fences, gates, signs, communication equipment, check-in areas, etc.).

Lilly del Caribe Response:

Sections F-1a(2)(a) and (b) in the permit application have been revised to reference Figure A-3. Figure A-3 depicts the fence and gates utilized as the barrier and mean to control entry.

F-1a(1). **24-Hour Surveillance System:** 264.14(b)(1)

Section F-1a(1) of the application states that "a plant security force is also maintained continuously on the site." Clarify what a plant security force consists of and indicate if security guards are staffed at the facility for 24-hours per day. Revise the application to include information on how many and how often guards patrol the site during each shift and what areas are specifically patrolled.

Section F-1a(1) of the application indicates that there are periods (holidays, and shutdown events) where the facility is not operating. Revise the application to verify how the facility maintains 24-hour surveillance during these time periods.

Finally, revise the application to indicate whether security cameras are maintained at the facility and if so, what areas of the facility are monitored on these surveillance cameras.

Lilly del Caribe Response:

The Mayagüez facility utilizes a barrier and means to control entry to satisfy this requirement as provided in 40 CFR 264.14(a). Therefore, section F-1a(1) has been removed from the permit application because it is not applicable.

- Adequate monitoring of the CO levels
- Potential sampling and analysis of the waste and exhaust emissions on the incinerator unit to verify that operating requirements established in the permit achieved performance standards if requested by the Regional Administrator.

State whether non-routine inspections are conducted (e.g., following storms). If so, provide copies of the inspection logs covering non-routine inspections.

Revise the inspection schedule to specify the types, numbers, and locations of all emergency equipment listed in Section G-5 of the Contingency Plan. For example, the specific personal protection equipment (PPE), the emergency showers, eyewash stations, and SCBAs. Revise the inspection log to include a comprehensive identification of all items to be inspected at the facility. Also, ensure that all security items such as the electronically controlled doors and gates are included.

Describe routine maintenance procedures for fire control, spill control, and decontamination equipment.

Ensure that the inspection schedule is available to all employees at the facility and also indicate where the schedule is located at the facility.

Lilly del Caribe Response:

An adequate supply of two-way radios is available at the facility (approximately 2-3 radios per Environmental Control employee). While one radio unit is in use, stand by units are maintained in their cradle while its battery is being re-charged. A supply of spare batteries is also maintained for immediate replacement of malfunctioning batteries. Due to the constant use of radios and telephones in the day to day operations, malfunctions will be immediately identified and referred to the maintenance personnel for repair. Lilly believes this practice to be adequate to ensure proper operation of these units during emergencies and therefore, has not updated the inspection schedule to include testing of communication systems.

Lilly believes that the incinerator's control system and/or Table F-1 of the permit application already provide for the following verifications/inspections requested: adequate

F-2a(1). **Types of Problems:** 254.15(b)(3)

Section F-2a(1) of the application simply states that "the equipment is examined for structural damage, as well as other types of damage and inoperability." Revise the application to clearly specify the "other types of damage and inoperability." Provide this information for each piece of equipment to be inspected.

Lilly del Caribe Response:

Section F-2a(1) of the permit application has been updated to specify other types of damage and inoperability that Mayagüez looks for during inspections. The RCRA regulatory citation provided by EPA in this comment does not require the level of detail requested. Table F-1 provides the types of problems or deficiencies looked for during inspections for each type or group of equipment. Also, Section F-2b(1) through (7) have been expanded to provide more details regarding the inspections.

F-2a(3). **Schedule of Remedial Action:** 270.14(b)(5), 264.15(c)

The application does not discuss the schedule of remedial action. Revise the application to include a schedule of how the facility will remedy any deterioration or malfunctioning of equipment or structures that is revealed during the inspection schedule presented in Table F-1. Lilly must present a remedial schedule, which ensures that the recognized problem does not lead to an environmental or human health hazard. If the hazard is imminent or has already occurred, remedial action should be taking by the facility immediately. Finally, identify the position title, which will be responsible for ensuring proper action is taken for each remedial action situation.

integrity of the containers." Specify the deterioration that is referenced (i.e., corrosion, crack, etc,).

The inspection schedule generically states that the "container storage area" will be inspected. Revise the application to include the specific items to be inspected and revise the inspection schedule to ensure that the following are inspected: portable tote bins (Section D-1), the container storage dike, wooden pallets, fork lift trucks, pallet jacks, grate covering the concrete pit (secondary containment), industrial absorbents to be used in case of a spill, transfer station pump, portable pump, vacuum induction vehicle, and "No Smoking" signs. Incorporate the inspection frequency as well as remedial actions to be taken for the above additional items to be inspected.

Lilly del Caribe Response:

The statement "hazardous waste may be stored in containers" has been clarified in the permit application to indicate that hazardous waste are stored in containers. Also, Section F-2b(1) was updated to specify the deterioration that was referenced.

The inspection schedule was revised to clarify that the containers listed in Section D-1 and the HWCSA dike are inspected weekly.

Lilly del Caribe does not believe the regulations cited by EPA in this comment requires the inspection of wooden pallets, fork lift trucks, pallet jacks, industrial absorbents, portable pump, vacuum induction vehicle, and "No Smoking" signs. These items are neither containers nor part of the secondary containment system. Section 40 CFR 264.174 only requires inspection of the containers and the containment system. The permit application was updated to specify the remedial actions for the hazardous waste containers and the HWCSA.

This section of the permit application has also been updated to indicate that remedial actions will be taken when deficiencies are found during tank inspections. Lilly del Caribe does not believe the remedial actions must be specified in the permit application, rather they will be maintained in the operating record at the Mayagüez facility.

F-2b(2)(a). Tank System, External Corrosion and Releases: 264.195(b)(1)

Section F-2b(2)(a) states that the "on a yearly basis, hazardous wastes storage tanks are inspected for metal thickness, localized or general corrosion, and any other unusual conditions which may exist." Clearly identify what other "unusual conditions" may be encountered with the tank inspections. Also, the last item in Table F-1 indicates that the integrity of the tank will be inspected, however, the only thing checked will be "wall thickness." Modify the table to include these additional items mentioned in the text. The application in this section also goes on to states that "above-ground tanks systems may be externally inspected using inspections devices" and that "appropriate repairs are made to maintain each tank." Identify the "inspection devices" and indicate how they are maintained at the facility. Also, indicate who is responsible for identifying, implementing and overseeing any "appropriate repairs" that may be performed.

Lilly del Caribe Response:

The second paragraph in Section F-2b(2)(a) has been removed from the permit application. Lilly del Caribe does not believe that shell thickness testing for hazardous waste tanks is required by the RCRA regulations since EPA withdrew those requirements in the 1986 revisions to the Part 264 tank standards. In the 1985 proposal, EPA states "[t]he Agency concludes that in view of all the technical, safety, and cost issues associated with the determination of tank shell thickness, the existing standard is not effective and, therefore, not warranted. Accordingly, today's amendments propose to delete this requirement from 264.191." (50 FR 26459, June 26, 1985) EPA also stated that"[i]nspections for shell thickness has been deleted since the Agency is also proposing to delete the existing requirement for minimum shell thickness." (50 FR 26483) The Agency finalized these proposals in 1986. (51 FR 25422).

within 24 hours from the sidewalls. Also, each tank rests on a concrete pad. A liner is installed between the concrete pad and the tank bottom. If a leak occurs at a tank base, it would be detectable during and inspection of the circumference of the tank bottom.

Since the Mayagüez hazardous waste storage tanks are not underground (i.e., not in contact with soil), leak detection is accomplished with a daily visual inspection. Therefore, automatic leak detection equipment is not installed on the Mayagüez tanks. However, high tank level sensors are installed in the permitted tanks to indicate the height of liquid waste to prevent tank overfills.

F-2b(5)(a). **Incinerator Inspection and Associated Equipment:** 264.347(b)

Revise table F-1 to include each of the items identified in Section F-2b(5)(a) of the application. Ensure that the table includes the frequency of inspections, problems identified, as well as remedial actions to take.

The top of page seven of Section F states that "any water or steam leaks would be analyzed to determined the effects on efficiency of the unit and the impact on the environment and human health." Clarify this statement and identify which constituents are measured for such analyses. Indicate how these media are sampled, contained, and analyzed, and ensure that any such characterization is accounted for in the WAP.

The top of Page seven of Section F also states that any "fugitive emission would be identified and corrected before waste feeds are resumed." Identify the person responsible for the identification and corrective action. Ensure such actions are properly documented.

Ensure that all monitoring and inspection data are recorded and the records are placed in the operating log as required by 264.73.

The Trial Burn Plan and Draft Workplan for a Multi-Pathway Tier II Health Risk Assessment have already been reviewed by EPA. Thus, any previous comments with respect to incinerator inspection and associated equipment should also be considered.

Lilly del Caribe Response:

Any previous comments from EPA with respect to incinerator inspection and associated equipment if any, as described on the submitted Trial Burn Plan and Draft Workplan for a Multi-Pathway Tier II Health Risk Assessment will be considered and incorporated in the most updated versions of these documents as will be submitted under separate cover to EPA in the near future.

F-3a. **Equipment Requirements:** 270.14(b), 264.32

The text description of all equipment in the storage and treatment areas is vague. Revise the information to clearly describe the location of all communication and alarms systems at the storage and treatment units and indicate their position on an appropriate map of the facility.

Lilly del Caribe Response:

The RCRA regulations cited by EPA in this comment do not require a list and map of the emergency equipment be provided in the Preparedness and Prevention Plan. This information is supplied in Section G-5 of the Contingency Plan.

F-3a(1). **Internal Communications:** 270.14(b), 264.32(a)

The application does not provide adequate information regarding the internal radio system. Revise the application to identify the type of radio and communication system used at the facility. Additionally, the application should indicate where the base location of the internal radio and whistle system is located at the facility and demonstrate that in an emergency information can be relayed to facility personnel in a quick and efficient manner to ensure the safety of all facility employees. In addition, identify whether the radio and communication system is installed in all storage and treatment areas to ensure that an emergency situation can be conveyed.

Lilly del Caribe Response:

Lilly del Caribe does not believe that 40 CFR 264.32(c) requires a diagram of the locations of emergency equipment be included in the permit application. Also, it is more appropriate to include this level of detail in the contingency plan, per 40 CFR 264.52(e). In fact, similar information is requested in comment G-5, which is referenced to in this section of the application. Therefore, Section G-5 of the permit application has been updated to include a table listing the emergency equipment along with the location, description, and purpose of each item.

F-3a(4). **Water for Fire Control:** 270.14(b), 264.32(d)

The application does not include adequate description of the systems available at the facility to control a fire. Revise the application to indicate the source of the pressurized water for emergencies and the location and number of any other fire control devices, such as foam production equipment. Also ensure that there is water available in sufficient volume in the case of emergencies.

Lilly del Caribe Response:

Section F-3a(4) of the permit application has been updated to indicate the source of firewater available at the Mayagüez facility. The volume listed in Section F-3a(4) is sufficient to allow response to emergencies.

F-3a(5). **Testing and Maintenance of Equipment:** 270.14(b), 264.33

Revise the application to include a discussion of the routine testing and maintenance that is conducted on all facility communications or alarms, fire protection equipment, spill control equipment, and decontamination equipment. Identify the frequency of such testing and ensure that any problems are remediated and documented. Indicate the personnel responsible for such testing.

Lilly del Caribe Response:

Table F-1 has been updated to ensure the inspections and testing of the necessary equipment.

discussion which local department will be the primary responders to an emergency at the facility and which departments would support as backup.

Lilly del Caribe Response:

Lilly del Caribe believes the text in Section G-6 of the permit application provides the information requested in this comment. Refer to response to comment G-4a regarding which local department would be the primary responder.

F-3c(2). **Emergency Response Teams:** 270.14(b), 264.37(a)(2), (a)(3)

Revise the application to include a discussion of the arrangements made to familiarize the local emergency response teams with the layout of the facility, types and properties of hazardous wastes handled at the facility and the associated hazards, places where personnel would normally be present, and the layout of the facility including entrances, exits, street layout, and possible evacuation routes. Also include in the discussion which local department will be the primary responders to an emergency at the facility and which departments would support as backup.

Lilly del Caribe Response:

Lilly del Caribe believes the text in Section G-6 of the permit application provides the information requested in this comment. Refer to response to comment G-4a regarding which local department would be the primary responder.

F-3c(3). **Local Hospitals:** 270.14(b), 264.37(a)(4)

Revise the application to include a discussion of the arrangements made to familiarize local hospitals with the properties of hazardous wastes and possible types of injury or illness that may be expected if an emergency situation occurs at the facility.

Lilly del Caribe Response:

Section G-6 of the permit application provides additional information as requested in this comment, explaining that the Local Hospitals have received copies of the plan and have not refused to or declined their participation as described in the plan.

Lilly del Caribe Response:

Details on the loading and unloading operations have been added to section F-4a of the application. The waste feed cutoff is discussed in section D-2 of the application.

F-4b. **Runoff:** 270.14(b)(8)(ii)

Section F-4b of the application indicates that " hazardous waste management areas not within diked areas are also serviced by a storm sewer system to collect runoff." The application should indicate where this potentially contaminated runoff would be directed. Hazardous waste discharge to location storm sewer is not acceptable. Revise the application to provide additional information on how this storm sewer runoff would be treated after collection to ensure that adverse environmental impacts do not occur.

It is also unclear which hazardous waste areas do not have secondary containment units. As discussed in Section D, it appears that all of the storage and treatment areas have secondary containment. Clarify and identify any areas which do not have secondary containment. Also, describe the visual inspection that is performed to ensure that the rain water is not contaminated (i.e., indicate how a visual inspection is sufficient to validate that the water is not hazardous. Section F-4b also states that "physical or chemical analysis" may be performed on the stormwater. Clarify and indicate which parameters will be tested for. Ensure that any such characterization is discussed and included in the WAP.

Lilly del Caribe Response:

Section F-4b of the application has been updated as requested.

F-4e. **Personnel Protection Procedures:** 270.14(b)(8)(v)

The application does not adequately describe the personnel protection procedures at the facility. Revise the application to discuss what PPE employees are required to wear during management of hazardous waste activities for each area where hazardous waste is maintained or transferred. In addition, the application should discuss where the PPE is stored in these areas. Ensure that PPE is supplied in adequate quantities in the waste handling areas.

Lilly del Caribe Response:

Section F-4e has been updated to clarify and provide the requested information.

F-4f. **Procedures to Minimize Releases to the Atmosphere:** 270.14(b)(8)(vi)

Revise the application to include a discussion of the procedures, structures, and equipment used at the facility to prevent releases to the atmosphere.

Lilly del Caribe Response:

Section F-4f has been added to the application, which discusses the procedures, structures, and equipment used at the facility to prevent and minimize releases to the atmosphere.

F-5a. **Ignitable or Reactive Wastes:** 270.14(b)(9), 264.17(a) and (c)

The application indicates that "smoking is not permitted inside the plant site's operational areas." Revise the application to demonstrate that "No Smoking" signs are present in all operational areas to notify personnel of this requirement.

The application does not provide adequate discussion on the procedures used to minimized ignitable or reactive wastes. Revise the application to provide additional information on the fire hazard permit procedure (open flame permit) that is in place at the facility. In addition, revise the application to demonstrate that adequate procedures are in place to prevent fire, explosions, or violent reactions due to hazardous waste leaks, spills, fumes, gases, or dusts. Provide

F-5d. **Management of Incompatible Wastes in Containers:** 270.15(c), 264.177

The application does not provide adequate information to demonstrate that the containers of incompatible wastes are management appropriately. Revise the application to provide sketches, drawings, and/or data which demonstrates that incompatible wastes are not placed in the same containers and that hazardous wastes is never places in unwashed containers which previously maintained incompatible waste.

Lilly del Caribe Response:

Refer to Section D-1 of the application, where the container compatibility is being discussed.

F-5e. **Management of Ignitable or Reactive Wastes in Tank Systems:** 270.16(j), 264.198

This section of the application states "smoking is prohibited on the plant site." However, in section F-5a the application states that "smoking is not permitted inside the plant site's operational areas." Resolve this discrepancy.

Provide sketches, drawings, or data demonstrating that the waste tanks are located at least 20 feet from the facility's property line.

Lilly del Caribe Response:

The application has been revised to clarify this matter and Figure G-2 on section G of the application indicates the designated smoking areas, located more than 200 ft from any activity with ignitable materials and more than 500 ft from the permitted areas.

Lilly del Caribe Response:

The RCRA regulations cited by EPA in this comment do not require the inclusion of the following information in the General Information section of the Contingency Plan:

- **Description of the property**
- **Brief history of the facility**
- **Operating dates**
- **Major process changes that have taken place**
- **Relevant descriptions of the on-site recovery processes for hazardous wastes**
- **Estimate of the frequency of hazardous waste transfers that occur at the facility.**

This information is available in Section B of the permit, which appears to be more appropriate. The information requested above does not address the goal of the contingency plan to "minimize hazards to human health and the environment from fires, explosions, and sudden and non-sudden releases of hazardous waste". (40 CFR 264.51)

Section G-1 of the permit application has been updated to reference to expanded descriptions of the following;

- **Description of all RCRA regulated units**
- **Descriptions of the on-site treatment procedures**

G-2. **Emergency Officer:** 270.14(b)(7), 264.52(d), 264.55

Revise the permit application to verify that at least one employee listed as an emergency coordinator will be on the facility premises or on call at all times. In addition, revise the application to provide information on the training and education of the emergency coordinators which prepares them to coordinate emergency response activities at the facility.

Lilly del Caribe Response:

The permit application has been updated to state that an emergency shall include a threat to human health or the environment.

Section G-3 of the permit application has been updated to include examples of situations that would potentially require the implementation of the contingency plan. The steps taken by the emergency coordinator to determine if the facility has had a release, fire or explosion, with the potential to affect human health or the environment, outside the facility, is described in Sections G-4b through G-4d.

The steps the emergency coordinator takes to notify local officials and/or outside government is described in Sections G-4a and G-4c. Section G-4c has been updated to include the information the emergency officer will report to the government agencies.

Lilly del Caribe does not believe the regulations cited by EPA in this comment requires the location of a command post be identified in the contingency plan. Due to the various hazard conditions that might occur, as well as variable wind weather conditions, establishing a set command post is not possible. Section G-2 of the permit application indicates that the emergency officer will establish a command post.

G-4. **Emergency Actions**: 270.14(b)(7), 264.56

G-4a. **Notification**: 264.56(a)

Section G-4a indicates that notification will be made to the appropriate agencies when "deemed" necessary. Revise the application to indicate what criteria will be used to deem necessary the notification of local authorities.

Section G-4a also indicates that plant personnel are notified by a "coded whistle" in the event of an emergency. Ensure that the "coded whistle" is a sufficient method of emergency communication for the facility, indicating the different codes used in different levels of

Lilly del Caribe Response:

The application has been revised to clarify that emergency response teams are equipped with field identification tools and up to date Material Safety Data Sheets (MSDS) and have extensive knowledge and experience on the chemicals available at the site, their chemical and physical characteristics.

The application has been updated to describe field analytical data that might be utilized to identify materials. Lilly notes that 40 CFR 264.56(b) allows the use of chemical analysis as a means of identification. Response activities that can be completed safely will continue while the chemical analysis is completed.

G-4c. **Assessment:** 264.56(c), (d)

The application does not explain the decision criteria used by the emergency officer to determine whether the emergency situation requires evacuation of local areas or notification of local or government officials. Revise the application to demonstrate the criteria an emergency coordinator would use to determine the severity of the direct and indirect hazards that may occur during the emergency situation, possibly providing scenarios as examples of what the emergency coordinator might do in an emergency situation.

Lilly del Caribe Response:

Section G-4a of the application has been updated to provide the information requested.

G-4d. **Control Procedures:** 264.52(a)

Revise the application to include a discussion of how, when, and by whom the police/fire and/or emergency personnel will be notified.

The application also does not provide adequate discussions of control procedures that would be used during a fire, explosion, or unplanned release to air, soil, and/or surface water. The application must also discuss the control procedures that will be implemented if not all the released materials can be recovered. For instance, if an explosion

Describe methods to contain, treat, and document adequate decontamination of an area where a release, fire, or explosion involving hazardous waste has occurred.

Lilly del Caribe Response:

The regulations cited by EPA in this comment do not require a discussion of arrangements to provide treatment, storage, or disposal of recovered waste. The statement in the permit application regarding arrangements simply indicates that Mayagüez can contact third party waste management companies to provide storage, treatment and/or disposal of recovered wastes. Section G-4f of the Contingency Plan has been updated to indicate that recovered waste that is sent offsite will be managed in accordance with 40 CFR Parts 260 – 262 and 268.

The regulations do not require documentation of decontamination.

G-4g. **Incompatible Waste:** 264.56(h)(1)

Clearly describe the procedures in place for the prevention of incompatible waste from being stored or located in the affected area until cleanup procedures are completed.

Lilly del Caribe Response:

Section G-4g has been updated to clarify the procedures to prevent movement of incompatible waste into the affected area prior to cleanup.

G-4h. **Post-Emergency Equipment Maintenance:** 264.56(h)(2)

Revise the application to include a description of how the emergency equipment will be decontaminated and inspected before re-use. For example, indicate the materials used for decontamination. Additionally, indicate how the equipment are discarded.

Revise the application to identify individuals responsible for maintaining emergency equipment.

G-4j. **Tank Spills and Leakage**

Discuss how the contents of a "leaking tank" will be transferred to another tank. Ensure that tanks are properly decontaminated to ensure incompatible wastes are not mixed.

Lilly del Caribe Response:

Section G-4j(2) has been updated to describe transfer of waste from the leaking tank to another tank. Decontamination of tanks prior to this transfer is not necessary since all the liquid wastes managed at the site are compatible and therefore not segregated into separate tanks. Primary and secondary wastes are compatible but segregated by BTU value (as described in Section C).

G-4j(1). **Stopping Waste Addition:** 264.196

Revise the application to include a detailed description of how the facility will immediately stop the flow of hazardous wastes into the tank system or secondary containment system. The application should also discuss how the tank system will be inspected to determine the cause of a release.

Lilly del Caribe Response:

Section G-4j(1) has been updated to describe how waste flow is stopped and that the tank will be inspected to determine the cause of the release.

G-4j(4). Notification Reports: 264.196

Revise the application to provide a detailed discussion of how and when the facility will prepare the required notification reports to the Regional Administrator. In addition, discuss when notification to the Regional Administrator is not required.

Lilly del Caribe Response:

Section G-4j(4) has been added to describe the notification report.

G-4j(5). Provision of Secondary Containment, Repair or Closure: 264.196(e)

Revise the application to include a detailed discussion of how the facility will determine whether closure of the tank system and secondary containment area is required. Discuss how the repairs and/or closure will be conducted, how the facility will prepare the appropriate notifications, and when they will be submitted.

Revise the Contingency Plan to demonstrate that if the release has not damaged the integrity of the system, then the released waste will be removed and repairs will be made, if necessary, prior to returning the system to service.

Lilly del Caribe Response:

Section G-4j(5) has been added to describe repairs and certification of repairs for leaking tank systems.

The application indicates that the facility maintains police, a fire patrol, and an infirmary. Identify the criteria used to assess whether the on-site facilities are insufficient to treat an emergency.

Lilly del Caribe Response:

As discussed in section G-6, arrangements with local emergency agencies include visits to the facility to become familiar with the its layout and the chemicals handled, in addition to discussing emergency procedures and practices. Copies of the most recent versions of the plan have also been provided to the Fire and Police departments, EQB and Hospitals. The regulations do not require that agreements with local emergency agencies be included in the permit, only that the facility documents the refusal of agencies to respond. None of the authorities contacted and receiving the plan has refused or decline their participation as described in the plan.

G-7. **Evacuation Plan:** 264.52(f)

The application indicates that all personnel will meet in a designated area. The application should discuss where this designated meeting area is. The facility should ensure that the designated meeting area will always be intact in the case of an emergency. Identify these areas on an appropriate facility map.

The application states that "due to the complexity of the site, predetermined evacuation routes are not designated." Section 264.52(f) requires that an evacuation plan be part of the contingency plan. Revise the application to include a detailed evacuation plan for all areas of the facility. This evacuation plan must detail all evacuation routes and alternative evacuation routes (in instances where primary routes may be blocked).

Lilly del Caribe Response:

Section G-7 of the application has been updated and Figure G-1 was added to clearly indicate the evacuation plan for the permitted areas and the meeting areas during evacuation events

H. **PERSONNEL TRAINING:** 270.14(b)(12), 264.16

H-1 **Outline of the Training Program:** 264.16(a)(1)

The application does not present adequate information on the introductory and continuing training programs conducted at the facility. The training outline presented in table H-1 does not sufficiently describe each of the topic areas listed. Revise the application to include a description of all topic areas listed (A. through H. on Table H-1, page 10). In addition, the revised application should include a discussion of how much time is spent on introductory and continuing training of employees each year. In addition, Table H-1 does not include training on the facility contingency plan. Revise the application to include contingency plan training for facility personnel.

In accordance with 29 CFR Section 1910.120 (e)(3) requirements, all general site workers and supervisory personnel involved in hazardous waste management, without regard for length of time their job requires such work, are required to complete OSHA Hazardous Waste Operations and Emergency Response Training, including a minimum of 40 hours of instruction and 24 hours of supervised field experience. The application should provide documentation that all affected employees have been trained in accordance with 29 CFR Section 1910.120 and have received all appropriate medical surveillance. Revise the application to include an outline of the material that will be covered under this training requirement, indicating who will conduct the training.

The revised application should include a brief description of how the training will be designed to meet actual job tasks. Clarify how the facility determines if the employee has "successfully" completed the training program. For example, indicate if a written or oral exam is used to measure the employees' knowledge of the training program. Also, indicate how many hours of the "annual update" training is given to each employee.

Table H-2 identifies the "Levels of Training" provided to each of the personnel. Clearly define the "B" and "L" levels for each of the training parameters. For example, indicate whether these levels are based on hours of training or the actual detail of the training material.

H-1a. Job Title/Job Description: 264.16(d)(1),264.16(d)(2)

The application must be revised to include a job title for each position at the facility related to hazardous waste management and the name of the employee filling that job. Revise the application to include the names of each employee involved in hazardous waste management and discuss how this employee list will be maintained and updated.

In addition, the job titles outlined in Table H-2 do not agree with the job descriptions and titles included in Section H-1a. Revise the application to correct these discrepancies.

Include all job titles of personnel required to perform emergency response in accordance with the contingency plan.

The revised application should include education, skills, or other qualifications for each job title identified in Table H-2 of the application.

Lilly del Caribe Response:

The application has been updated to list the job positions that will receive the training outlined. Names of each employee involved in hazardous waste management were not added to the application since the RCRA regulations cited by EPA in this comment do not require this. That information is kept in the operating record at the facility as required by the regulations.

Table H-2 has been replaced by Attachment H-2.

The application has been revised to reference the job title and job description of the personnel required to perform emergency response in accordance to section G.

Attachment H-2 describes the education, skill, and other qualification for each Environmental Control job category.

H-1c. **Training Director:** 264.16(a)(2)

Provide documentation indicating that the designated training director is suitably qualified to administer the training program. Also revise the application to provide the qualifications, education, and skills of the person(s) that will perform the training.

Lilly del Caribe Response:

Table H-1 lists the training received by the RCRA Training Coordinator.

H-1d. **Relevance of Training to Job Position:** 264.16(a)(2)

The revised application should include the instruction which teaches facility personnel hazardous waste management procedures (e.g., contingency plan implementation) relevant to the positions in which they are employed. This instruction should be given for each position at the facility that requires hazardous waste training.

Lilly del Caribe Response:

The revised application provides the requested modification through the addition of Tables H2 and H-3, and Attachment H-1.

H-1e. **Training for Emergency Response:** 264.16(a)(3)

The application does not include sufficient evidence that facility personnel are trained and able to respond effectively to specific emergencies. As discussed in comment H-1, the Training Outline presented in Table H-1 is lacking a description of the materials covered in training. Revise section H-1(e) and Table H-1 to include a more thorough description of the training procedures and the specific emergency response focus areas (e.g., fires, explosions, shutdown events, groundwater contamination incidents, etc.).

Describe any special spill and fire/explosion training personnel will receive. Provide a course outline of the initial and continuing training elements. Indicate how often drills are performed at the facility. Ensure that the "Emergency Plant Brigade" that is identified in Section

A Contingent Closure Plan for decontamination and/or removal of concrete, subsoils and structures. A contingent plan is required for approval of the Closure Plan.

The Closure Plan, as submitted, does not provide an adequate description of partial or final closure procedures. The Closure Plan does provide a general outline of the activities for closure; however, it is extremely vague and generic. The Closure Plan should provide enough information and detail about all closure activities, so that a third party could implement the plan if the facility was unavailable. Revise the Closure Plan to describe in detail all closure activities that will occur at the facility, including more specific details for each unit that addresses:

- Waste removal and disposal
- Removal, decontamination and disposal of unit structures
- Restoration of the site
- Collection and analysis of soil and groundwater samples
- Demonstration that decontamination has been effective.

Lilly del Caribe Response:

Lilly del Caribe has updated the Closure Plan to increase the level of detail such that a third party could implement it. The revised plan is more detailed than the current Closure Plan, which was approved by EPA and has been in place since 1989.

The Closure Plan (Sections I-1d(1), (2), and (3)) has been updated to include tables I-2 and I-3 which list the hazardous constituents stored in the HWCSA and tanks and treated in the incinerator.

Lilly del Caribe believes that EPA intended to request a list of clean closure and/or decontamination levels where they request a "list of exposure limits" in this comment. Therefore, the Closure Plan has been updated to reference EPA health-effects based standards available at the time of closure.

Sections I-1d(1), (2), and (3) of the Closure Plan have been updated to include criteria to determine when the secondary containment areas, and potentially the soils, surrounding

Section I-1(a) of the application states that closure "will be accomplished by removing or treating all hazardous waste, hazardous residues, and contaminated soil and decontaminating all equipment and structures." However the application does not identify the specific hazardous constituents or the associated analytical methods to be used. The Closure Plan must be revised to identify all the hazardous constituents (including all wastes listed in the Part A), and analytical methods to be used for the closure of each unit at the facility.

The application provides insufficient information regarding the cleanup levels to be used at the time of closure. The Closure Plan must provide assurances that all hazardous constituents on structures, equipment, and soils are removed to non-detectable levels. Currently, the Closure Plan specifies only toluene as the indicator parameter for decontamination. The indicator constituent is not sufficient. The Closure Plan must include analytical testing for all hazardous constituents ever stored and/or treated at the facility.

Revise the application to include a complete list of the specific parameters to be used to demonstrate compliance with clean closure performance standards.
Finally, for units to be clean closed, the application must include a Contingent Closure Plan that addresses potentially contaminated subsoils or structures which may not be able to be removed during closure. The plan must demonstrate how the facility will conduct closure consistent with the closure performance standards. Unless a health-effects based rationale can be provided for proposing cleanup above non-detectable levels, all hazardous constituents on structures, equipment, and soils must be removed to non-detectable levels.

Lilly del Caribe Response:

Tables I-2 and I-3 have been added to the Closure Plan to indicate the hazardous constituents (from 40 CFR 261 Appendix VIII) and analytical methods. These tables will be updated when additional hazardous constituents are added to the facility. Also, each list will be reviewed at the time of closure.

Lilly del Caribe does not believe that removal of all hazardous constituents to non-detectable levels is required by the closure regulations. The closure standard requires

criteria for each hazardous constituent on all structures and equipment associated with each unit have been met.

- Detailed criteria for deciding if and when soil sampling is required at each unit. For example, soil sampling should be conducted if any cracks exist in the concrete floor or seal coating, or if the flooring or secondary containment areas are found to be significantly deteriorated at the time of closure.

- The procedures to be followed to prevent run-off and run-on of any precipitation and/or decontamination solutions from the storage units during closure activities. Additionally, the sampling procedures and techniques that will be used to collect decontamination rinse water samples must be identified, as well as the individual analytes of concern.

- A discussion of the closure activities for each loading and unloading area in both the tank and container storage areas. For example, the feed tanks are filled with waste from incoming waste transport vehicles. Clarify how these areas will be closed, and if there is a concrete pad underneath the transfer location or if it transfer activities are performed over soil. Additionally, describe the sampling activities that will be conducted to ensure clean closure of these areas of the facility.

Lilly del Caribe Response:

Lilly del Caribe has updated the Closure Plan to be more specific regarding the activities necessary to complete closure. The plan is in sufficient detail that a qualified third party would be able to complete closure in a safe and expeditious manner. The revised Closure Plan provides the basic elements necessary to close the facility to meet the closure standard.

The Closure Plan (Sections I-1d(1), (2), and (3)) has been updated to include tables I-2 and I-3 which list the hazardous constituents stored in the HWCSA and tanks and treated in the incinerator. These sections of the Closure Plan were also updated to indicate that the clean-up criteria would be the EPA health-effects based standards for an industrial scenario available at the time of closure.

active life of the facility. Revise the Closure Plan to include this information.

Lilly del Caribe Response:

Lilly del Caribe does not believe the regulations cited by EPA in this comment require a description of the sequence of closure of the permitted units be included in the Closure Plan. Lilly has no plans to close the permitted facility at this time. However, the closure of all units could be accomplished within the 180-day time frame since many activities could occur concurrently. This statement has been added to the application. The maximum extent of the facility left unclosed during the active life is listed in Section I-1(c) of the Closure Plan.

Section I-1d has been modified to provide more details on the method of removing waste from units that are undergoing closure.

Lilly del Caribe does not believe the regulations cited by EPA in this comment require the identification of off-site solid and hazardous waste management facilities to be used during closure based on the facilities available at that time, the type of waste and the applicable RCRA regulations. The facilities utilized will be selected at the time of closure. The Closure Plan does specify that the off-site facilities used will be RCRA permitted for hazardous waste streams.

The maximum inventory of waste in the HWCSA and the tank units is listed in Section I-1(c) of the Closure Plan, as specified above. The incinerator unit does not contain an "inventory" of hazardous waste since the unit has no storage capacity and because only liquid wastes are introduced into the unit, there is no solid residue remaining in the unit. To the extent that EPA is referring to residual scrubber water in the incinerator, the scrubber water is not a hazardous waste since it will be discharged to PRASA in accordance with the site's pretreatment permit. Thus a volume has not been listed in the Closure Plan for the volume of "inventory" of hazardous waste for the incineration unit.

I-1e(1). **Inventory Removal:** 270.14(b)(13), 264.112(b)(3)

Revise the application to include a detailed description of the methods to be used during partial and final closure, including, but not limited to, methods for removing, transporting, treating, storing, or disposing of hazardous waste and identification of the types of off-site hazardous waste management units to be used. The Closure Plan does not adequately describe the disposal of all operational structures and equipment. Revise the Closure Plan to provide this information.

Section I-1(d) of the application states that "all inventories of hazardous wastes in the areas to be closed will be removed and either treated on-site or transported off-site to an approved TSD." Provide more detail on how, during closure, the waste will be removed, transported, treated, stored, and disposed of.

Lilly del Caribe Response:

Section I-1d has been modified to provide more details on the method of removing waste from units that are undergoing closure. Also, the method of transportation and the types of TSD s were specified in Section I-1d.

The disposal/disposition of operational structures and equipment was depicted in Sections I-1d(1), (2), and (3) of the application reviewed by EPA. Lilly del Caribe has added more detail to these sections to better describe the disposal/disposition as requested.

- The sampling techniques that will be used to collect decontamination rinse water samples and identify the analytes of concern.

Revise the application to provide a clear discussion of the how all wastewaters generated from decontamination activities are managed.

Section I-1(d), page 4 states that "currently only three treated constituents are in any significant quantity at Mayaguez: acetonitrile, methylene chloride, and toluene. Therefore, one of these constituents could serve as the parameter indicating contamination of equipment." The application further states that "toluene" will be used as the indicator parameter for contamination. Define "significant."

Furthermore, justify the selection of one indicator parameter when the Part A and the WAP clearly indicate that several wastes containing other constituents are stored and treated at the facility. Furthermore, page 6 of the Closure Plan states that "as stated previously in this section, the container storage area, tank storage area and incinerator have been exposed to the same waste." However this statement is inconsistent with the Part A application which indicates that D003 wastes are stored only in the container storage area and not in the tank area, nor is D003 waste treated in the incinerator. Therefore, the statement that one indicator is sufficient to determine contamination is inadequate. Revise the application to demonstrate that any hazardous constituents left at the unit will not impact any environmental media in excess of Agency-established exposure levels and that direct contact will not pose a threat to human health and the environment. This information should include all constituents, and not be limited to constituents assumed to be in "significant" quantities.

Page 5 of the Closure Plan states that "the wash/rinse steps will be repeated until the target level is attained or the unit will be disposed of as a hazardous waste at an approved off-site TSD facility." Indicate how and when this determination is made. For example, clarify how many cycles of "wash/rinse" must be performed to decide that decontamination ineffective and off-site disposal of the equipment is required.

Section I-1(d) states that for decontamination, the "unit will be cleaned with either a detergent wash or steam." Specify the type of detergent used in the wash and also provide details of the steam

Lilly del Caribe Response:

Sections I-1d, I-1d(1), I-1d(2), and I-1d(3) of the Closure Plan have been updated to include each item that EPA requested in the first paragraph of this comment.

Lilly del Caribe discussed the regulatory status of waste generated during decontamination processes with EPA Region 2 on January 3, 2001. EPA agreed that wastes generated during decontamination procedures are newly generated waste and subject to the generator standards rather than the RCRA Part B Permit. Therefore, Lilly del Caribe has not updated the Closure Plan to address the comments on section I-1e(2), page 3 relating to these wastes.

The EPA requests to define "significant" and justify the selection of one indicator parameter, on page 4 of section I in the permit application, is no longer relevant since Lilly del Caribe modified the proposed Plan and it no longer relies on one indicator parameter (toluene). (This standard had been proposed since it was part of the existing RCRA permit for the site.) The goal of the Closure Plan is to remove all hazardous constituents, stored or treated in the permitted units, to below EPA health-effects based standards for an industrial scenario.

The decontamination procedure has been split into four sections, one for each of the following: equipment, HWCSA, tanks, and the incinerators. Each decontamination procedure includes steps to determine if and when decontamination was effective. The equipment that can not be fully decontaminated will be managed as hazardous waste.

The references to detergent have been deleted from the Closure Plan, and water washes will be used for all cleaning operations.

The Closure Plan has been updated to specify how equipment is decontaminated, including the decontamination standards. Toluene is no longer the sole indicator parameter; Tables I-2 and I-3 are now the indicator parameters.

- ☐ Identify the EPA recognized sampling test methods will be used to sample and analyze soil samples collected beneath deteriorated portions of the floor.

- ☐ Specify procedures for analyzing, removing, and disposing of any potentially contaminated concrete flooring.

Finally, indicate how the containers are decontaminated and disposed. Ensure that all containers that contained incompatible wastes are properly managed. Clarify how the secondary concrete disposal will be performed.

Lilly del Caribe Response:

Lilly del Caribe does not believe the RCRA regulations cited by the EPA in this comment require the site to sample soils around the HWCSA without evidence of a release. The Closure Plan has been updated to indicate that if cracks are observed in the concrete of the HWCSA at the time of closure the soil beneath the crack will be sampled. Lilly del Caribe believes this is sufficient since Lilly's approach to releases is to immediately remove the released material and clean the affected areas. Also, the floor is maintained free of cracks and gaps, thus eliminating the potential for a spill or release of a hazardous constituent to enter the soils beneath or surrounding the area. However, the application was revised to add discussion of soil sampling should there be evidence of a release, or if cracks or gaps in the concrete are evident at the time of closure.

Section I-1d(1) of the Closure Plan has been updated to describe how residues are removed and how decontamination or removal of contaminated structures will occur.

Table I-2 was added to the Closure Plan to indicate that EPA SW-846 test methods will be used to analyze soil samples, if necessary, taken from the HWCSA. Also, the Closure Plan was updated to refer to the "Compendium of ERT Waste Sampling Procedures" (Jan 1991) for collection of waste samples. For soil samples, the "Compendium of ERT Soil Sampling and Geophysics Procedures" (Jan 1991) was added to Section I-1d.

releases in the HWCSA are removed and the affected area is cleaned up when a release is discovered. Also, the floor is maintained free of cracks and gaps, thus eliminating the potential for a spill or release of a hazardous constituent to enter the soils beneath or surrounding the area.

However, the application was revised to add discussion of soil sampling should there be evidence of a release, or if cracks or gaps in the concrete are evident at the time of closure. Table I-3 was added to the Closure Plan to indicate that EPA SW-846 test methods will be used to analyze soil samples, if necessary, taken from the HWCSA. Also, the Closure Plan was updated to refer to the "Compendium of ERT Waste Sampling Procedures" (Jan 1991) for collection of waste samples. For soil samples, the "Compendium of ERT Soil Sampling and Geophysics Procedures" (Jan 1991) was added to Section I-1d.

I-1e(8). <u>Closure of Incinerators</u>: 270.14(b)(13), 264.351

The application does not provide sufficient detail on how all hazardous waste and waste residues (including, but not limited to, ash scrubber waters, and scrubber sludges) will be removed from the incinerator. Specifically, this information should address all associated ductwork, piping, air pollution control equipment, sumps and any other structures or operating equipment such as pumps and valves that may have come into contact with hazardous waste.

Revise the application to include specific details on how the incinerator and associated units and equipment will be dismantled and disposed of as a hazardous waste. These details should include a discussion of the sampling procedures that will be used to demonstrate clean closure of the incinerator, including information on how many samples will be collected, where they will be collected, and the EPA-recognized sampling and analytical methods.

The Closure Plan, page 13, states that decontamination rinsewater from the closure activities of the incinerator "will be treated/disposed in accordance with 40 CFR 260-268." This statement is not sufficient. The application must be revised to specifically provide the treatment/disposal procedures in place for the rinsewaters. Revise the application to ensure that clean closure of the unit includes testing for all hazardous constituents ever treated in the unit. Furthermore, clarify how any residues from treatment operations will be handled

Lilly del Caribe Response:

The Closure Plan has been updated to indicate that the cost estimate is based on third party costs to close the facility. Responses to the remaining comments in this section are listed below each section. Also, all cost estimates in Attachment I-1 (Table I-2 in the 1998 revision of the permit application) were updated.

Container Storage Area Closure

Off-site disposal of containerized waste

- Transportation costs for hauling waste to treatment/disposal facilities
- Management/oversight costs associated with loading the trucks
- Separate the labor costs into individual costs for loading trucks and paperwork. Two days seems optimistic for loading 900 drums and preparing necessary paperwork.

Lilly del Caribe Response:

The rate Lilly del Caribe receives from the third party disposal costs is a bulk rate, per drum, including transportation costs. Therefore, the transportation costs are included in the treatment/disposal costs total listed in the Closure Plan. The application has been clarified to indicate transportation costs are included the per drum disposal/treatment rate.

Management/oversight costs were added to the Closure Plan

Labor costs were separated and increased as requested

Decontamination of secondary containment structure

- Specify the containment pad area, thickness, and expected cost of decontamination
- If a berm is present specify the berm thickness, volume, and expected cost of decontamination

- Sampling and analysis costs for soil under the former containment area.

Lilly del Caribe Response:

The type of rental equipment expected has been clarified in the Closure Plan.

The application has been updated to include the transportation costs.

The application has been updated to include engineering design and management costs.

The Closure Plan does include a cost estimate for the preparation and completion of the certification. The certification costs have been expanded to separate out the paperwork preparation costs and the engineer's certification.

Soil sampling and analysis costs were added to the Closure Plan.

Tank Storage Area Closure

Off-site disposal waste in tanks

- Separate the labor costs into individual costs for loading trucks and paperwork. One man-day of labor seems optimistic for loading 260,000 gallons of waste and preparing necessary paperwork.
- Include management/oversight costs associated with the loading activities.
- Include transportation costs for hauling waste to treatment/disposal facilities.
- If the waste will be sampled and analyzed before shipping to a treatment facility, then the sampling and analysis costs must be provided.
- List the cost of any containers used in the off-site disposal process.

The equipment will not be sampled prior to decontamination, therefore the cost estimate was not updated to include sampling and analysis costs.

The labor costs were separated as requested.

Since all decontamination liquids will be flushed into the storage tanks, and then loaded into bulk containers (tanker trucks), there is no need to list the cost of containers in this section.

Decontamination of secondary containment structure and tank exteriors

- Cost of drums and other equipment used in solid debris cleanup
- If the equipment is to be sampled and analyzed before decontamination occurs, then sampling and analysis costs must be provided
- Transportation costs for hauling solid debris and wash water/rinse to treatment/disposal facilities
- Engineering design and management costs associated with the decontamination of secondary containment structure and tank exteriors
- Paperwork preparation time and cost, including engineer certifications.

Lilly del Caribe Response:

The drum costs have been added to the closure cost estimate.

The secondary containment structures and tank exteriors will not be sampled prior to decontamination. However, the final rinsate (third) will be sampled to determine if decontamination is complete. These analytical costs have been added to the Closure Plan.

The application has been clarified to indicate transportation costs are included in the bulk rate listed for treatment of the waste.

The application has been updated to include engineering design and management costs.

Demolition of secondary containment structure

- Provide more specific information on what items are included in "equipment rental"
- List transportation costs for landfill-bound waste
- Engineering design and management costs associated with the demolition and disposal activities
- Paperwork preparation time and cost, including engineer certifications
- Sampling and analysis costs for soil under the former tank system.

Lilly del Caribe Response:

The type of rental equipment expected has been clarified in the Closure Plan.

The application has been updated to include the transportation costs.

The application has been updated to include engineering design and management costs.

The Closure Plan does include a cost estimate for the preparation and completion of the certification. The certification costs have been expanded to separate out the paperwork preparation costs and the engineer's certification.

Soil sampling and analysis costs were added to the Closure Plan.

Lilly del Caribe Response:

The type of rental equipment expected has been clarified in the Closure Plan.

The application has been updated to include the costs of decontamination of equipment used to raze the incinerator.

The application has been updated to include the transportation costs.

The application has been updated to include engineering design and management costs.

Soil sampling and analysis costs were added to the Closure Plan.

The Closure Plan does include a cost estimate for the preparation and completion of the certification. The certification costs have been expanded to separate out the paperwork preparation costs and the engineer's certification.

Contaminated Soil Cleanup and Disposal

- List the cost of necessary debris boxes and other equipment
- Cost of transportation for contaminated soil
- Total volume of backfill material required
- Labor, material, and equipment cost for backfill
- Transportation costs for backfill material
- Engineering design and management costs associated with the removal and backfill
- Paperwork preparation time and cost, including engineer certifications.

The permit also includes vague language on cost estimate revisions. The federal requirements require the cost estimate to be updated within 30 days after the close of the firm's fiscal year and before submission of updated information to the Regional Administrator (264.142(b)). The existing language says the closure cost estimate will be "adjusted annually from the date of its original development to reflect changes in closure costs brought about by inflation." This language is accurate, but does not mention the required time frame for the cost estimate revision.

Lilly del Caribe Response:

The Closure Plan has been updated to indicate the updated closure cost estimates will be submitted within 90 days of the close of the fiscal year for Lilly del Caribe. This timing is specified in 40 CFR 264.143(f)(5) and is applicable to the Mayagüez facility since the financial test and corporate guarantee are used to establish financial assurance. This mechanism has been in place for many years and has been accepted by the Region and by the Puerto Rico Environmental Quality Board.

I-5. **Financial Assurance Mechanism for Closure:** 270.14(b)(15), 122.25(a), 264.143

Lilly is using the financial test and corporate guarantee to meet their financial assurance for closure requirement. Specifically, Lilly intends to comply with the financial test and corporate guarantee requirements by meeting the conditions of 264.143(f)(1). This option requires Lilly to have:

- A current bond issuance of BBB or higher according to Standard and Poor's
- Tangible net worth at least six times the sum of current closure cost estimates
- Tangible net worth of at least $10 million
- At least 90% of total assets or six times current closure cost estimates located in the United States (264.143(f)(1)(ii)(A)-(D)).

I-8a(2). **Financial Test and Corporate Guarantee for Liability Coverage:** 270.14(b)(17); 264.147(a)(2), (f), (g); 264.151(f), (g)

Please see comments I-4 and I-5.

Lilly del Caribe Response:

Please see response to comments I-4 and I-5 above.

M **SUBPART AA PROCESS VENTS**

M-2. **Applicability - Process Vents:** 270.14(a), 264.1030(b), 264.1031, 270.24(b)

Section K, Page 1 of the application states that the Mayagüez facility manages solvent wastes in closed loop systems, which remain exempt from RCRA regulation. The facility cannot assume that these systems are exempt without considering the following factors. The facility must ensure that secondary materials that are reclaimed in the closed loop system are returned to the same part of the process in which they were generated for use in the production process. The application should state where the solvents are generated and the part of the process to which the reclaimed solvents will be returned. To remain excluded from regulation, the closed loop system must involve only tank storage, must be entirely connected with pipes or other hard connections, and the facility must ensure that secondary materials are not accumulated in these tanks for more than 12 months without being reclaimed. The application must state the means of conveyance of these secondary materials through the closed loop system. The facility cannot use controlled flame combustion in the reclamation process and cannot use the reclaimed materials to produce a fuel, or to produce products used on the land. If the facility does not meet these conditions, the recycling unit is subject to Subpart AA. The application should be revised to fully demonstrate these standards.

Lilly del Caribe Response:

Please refer to the response to M-2 above relating to the closed-loop recycling systems.

Section K-2a of the permit application has been updated to indicate how the equipment subject to 40 CFR 264 Subpart BB is identified.

N-1c. **Equipment that Contains or Contacts Hazardous Waste:** 270.25, 264.1050(f), 264.1064(g)(6)

If the facility has equipment that contains or contacts hazardous waste with an organic concentration above 10 percent by weight for less than 300 hours per calendar year, they must maintain either a list of that equipment or location information of that equipment in the facility operating record (264.1064(g)(6)). Revise the application in Section K-2j, page 10, to clarify whether or not the facility has this type of equipment. If so, include the appropriate recordkeeping procedures in the application.

Lilly del Caribe Response:

The facility has identified various onsite generator locations with organic concentrations above 10 percent by weight for less than 300 hours per calendar year. Since these areas are not subject to the RCRA permitting requirements, Lilly believes their reference in the permit application is not required. Section K-2j of the permit application was updated to include the record-keeping requirement for areas operated in accordance with 40 CFR 264.1050(f).

tank, or surface impoundment in compliance with Subpart CC or a control device. Lilly states on Section K-2e, page 5 that in situ sampling systems are exempt from regulation. The application must clarify that although in situ sampling systems and sampling systems without purges are not subject to 264.1055(a) and 264.1055(b), they are subject to other applicable parts of Subpart BB, including marking and recordkeeping.

Lilly del Caribe Response:

Section K-2e of the permit application has been updated to clarify the type of sampling systems installed on the RCRA permitted tanks. In-situ sampling devices (defined as in-line or nonextractive samplers) **are not installed on the RCRA permitted tanks at the moment.**

N-6a **Standards for Open-Ended Valves and Lines:** 270.25(d), 264.1056(a) and (c)

The facility should clarify the section in the application dealing with the seal for the open-end valve or line in Section K-2f, page 5. The application should state the specific type of device (i.e. plug, valve, cap, or blind flange) that will seal the open end of each valve or line. The phrase "except during operations" must be clarified on the application. Revise the application to demonstrate that the open end of each valve or line must be sealed at all times, except during operations requiring hazardous waste flow through the open-ended valve or line.

Lilly del Caribe Response:

The facility does identify in its operating records the devices (utilized to seal the open end of each valve or line in its operating record. The phrase "except under operations "was clarified in the application. The list in Attachment K-1 is simply a summary of the type of information maintained in the operating record and is not intended to provide information on individual pieces of equipment.

Section K-2f of the permit application has been updated to specify that open-ended valves or lines are sealed at all times, except during operations requiring hazardous waste flow through the open-ended valve or line.

Lilly del Caribe Response:

Neither 40 CFR 264.1064 nor the 40 CFR 270.25 (d), nor the other rules cited in the comment (264.1058(a) or 264.1063(b)) requires that the Method 21 response factors and time be listed in the permit application. Since 40 CFR 60 Appendix A, Method 21 is referenced in the permit application, Mayagüez is subject to and complies with the referenced instrument response factors and times. The permit application was updated to specifically refer to 40 CFR 60 Appendix A, Method 21.

N-8c. **Leak Repair as Soon as Practicable:** 270.25(d), 264.1057(e), 264.1058(c), 264.1059

The application should state more specifically in Section K-2h, page 8 how each piece of equipment subject to this section will be physically tagged or whether the facility will employ the use of a schematic diagram to identify each piece of equipment subject to this subpart.

Section K-2h, page 8 of the application states that when a leak is detected the first attempt at repair will consist of initiating Lilly's repair program. The facility should include examples of Lilly's best management practices to repair leaks including tightening or replacement of bonnet bolts, tightening the packing gland nuts, or injecting lubricant into packing.

Lilly del Caribe Response:

Section K-2h has been revised as described in response to comments N-1a and N-2d above.

N-13a. **Semi-Annual Report:** 270.25(a), 264.1065

The facility states in Section K-2j, page 10 of the application that they will submit a semi-annual report within 30 days following the end of the semi-annual reporting period. Lilly should not assume that 30 days is a viable time frame within which to submit this report without consulting with the Regional Administrator to determine this time frame.

conduct waste stabilization in containers and the containers are stored in the HWCSA.

The Subpart CC requirements in 40 CFR 264.1080 and 264.1089, and the RCRA Part B permitting regulations do not require the listing of the DOT containers utilized by the Mayagüez facility.

The application has been updated to reference the Hazardous Waste Containers Storage Area (HWCSA) is the only RCRA permitted are subject to Subpart CC.

o-4. **Standards for Tanks:** 270.14(a), 270.27, 264.1084(b)(1) and (2), 264.1084(d)

The application identifies those tanks subject to Subpart CC in attachment K-4. Although this attachment contains information on the design capacity and maximum organic vapor pressure of waste of each tank, the application does not specifically address the tank level (i.e. Level 1 or Level 2), whether waste stabilization occurs in any subject tanks, or the procedures the facility takes to determine the tanks' vapor pressure. The application and specifically attachment K-4 should state whether or not waste stabilization occurs in these tanks and the procedures used to establish the maximum vapor pressure of the tanks. If waste stabilization occurs, the tank must operate in accordance with Level 2 tank controls in 264.1084(d) regardless of the tanks design capacity and vapor pressure (264.1084(b)(2)).

Revise Section K-3b, page 12 of the application to clearly state whether fixed roofs or floating roofs will be used on Level 2 tanks. For example, attachment K-4 indicates that all of Lilly's tanks will have fixed roofs, but Section K-3b, page 12 of the application references 264.1084(f), which deals with external floating roofs. This discrepancy should be eliminated. If fixed roofs are used on Level 2 tanks, the vapors must be vented through a closed-vent system routed to a control device designed in accordance with 264.1087. Openings on fixed roofs used on Level 1 tanks may be equipped either with closure devices or closed-vent systems routed to control devices (264.1084(c)(2)(iii)). If Lilly uses closed-vent systems and control devices on Level 1 tanks, these devices must also meet the performance standards in 264.1087. Revise Section K-3b, page 12 of the application and attachment K-4 to clarify whether the facility will use closure devices or closed-vent systems routed to control devices on

Lilly del Caribe Response:

Section K-3d has been updated to indicate that the Mayagüez facility will maintain the information required in 40 CFR 264.1089(e)(1)(v) in the operating record.

Section K-3c of the application has been revised to indicate the control device employed on the permitted Level 2 tanks.

O-12d. **Control Device Recordkeeping and Reporting Requirements:** 270.27(a)(5), 264.1087(c)(4)

The application must be revised to include information pertaining to the planned routine maintenance schedule for all closed-vent systems and control devices. The facility must provide a description of the planned routine maintenance of these closed-vent systems for the next six-month period and describe the maintenance performed on the closed-vent system for the previous six-month period (264.1089(e)(1)(v)).

Section K-3c, page 14 of the application references 264.1089(a)(1) and 264.1089(4) for recordkeeping requirements. These section references are incorrect and should be amended in the application. Section 264.1089(a) deals with maintaining control equipment design documentation in the operating record. Section K-3c, page 14 references 264.1089(6) and 264.1089(11) which are also incorrect citations and should be amended. Note that 264.1089(b) deals with recordkeeping requirements for tanks and tank control equipment.

Section K-3c, page 15 of the application states that 265.1089(f)(5) deals with designating covers as unsafe to inspect and monitor. This citation is incorrect and should be changed to 264.1089(g). The section reference 264.1089(f)(6) on Section K-3c, page 15 for covers that are designated as difficult to monitor is also incorrect.

Table of Contents

Table of Contents (cont.)

[1] Not updated in this revision document.

Table of Contents (cont.)

[1] Not updated in this revision document

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved. OMB No. 2050-0034 Expires 10/31/02
CSA No. 0248-EPA-OT

For EPA Regional Use Only		
Date Received: Month / Day / Year		

United States Environmental Protection Agency
Washington, DC 20460

Hazardous Waste Permit Application Part A

(Read the Instructions before starting)

I. Facility's EPA ID Number *(Mark 'X' in the appropriate box)*

[ ] A. First Part A Submission

[X] B. Revised Part A Submission (Amendment # 3)

C. Facility's EPA ID Number	D. Secondary ID Number *(If applicable)*
P R D 0 9 0 2 4 7 8 6	N A

II. Name of Facility

L I L L Y D E L C A R I B E, I N C.

III. Facility Location *(Physical address not P.O. Box or Route Number)*

A. Street

3 0 8 0 H O S T O S A V E N U E

Street *(Continued)*

City or Town	State	Zip Code
M A Y A G U E Z	P R	0 0 6 8 2 – 6 5 0 5

County Code *(If known)*	County Name
N A	

B. Land Type (Enter code)	C. Geographic Location: LATITUDE (Degrees, minutes, & seconds)	LONGITUDE (Degrees, minutes, & seconds)	D. Facility Existence Date: Month / Day / Year
P	1 8 1 5 0 5 5	0 6 7 0 9 0 1 3	

IV. Facility Mailing Address

Street or P.O. Box

P O B O X 1 7 4 8

City or Town	State	Zip Code
M A Y A G U E Z	P R	0 0 6 8 1 – 1 7 4 8

V. Facility Contact *(Person to be contacted regarding waste activities at facility)*

Name *(Last)*	*(First)*
N E A L	J O H N
Job Title	**Phone Number** *(Area Code and Number)*
D I R E C T O R	7 8 7 – 8 3 4 – 7 8 4 6

VI. Facility Contact Address *(See instructions)*

A. Contact Address: Location / Mailing / Other	B. Street or P.O. Box
X	

City or Town	State	Zip Code
		–

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved. OMB No. 2050-0034 Expires 10/31/02
GSA No. 0248-EPA-OT

EPA ID Number *(Enter from page 1)*: PRD091024786

Secondary ID Number *(Enter from page 1)*: N/A

VII. Operator Information *(See instructions)*

A. Name of Operator: LILLY DEL CARIBE, INC.

Street or P.O. Box: 3080 HOSTOS AVENUE

City or Town: MAYAGUEZ,

State: PR

ZIP Code: 00682-6505

Phone Number *(Area Code and Number)*: 787-834-7846

B. Operator Type: P

C. Change of Operator Indicator: Yes [ ] No [X]

Date Changed: Month / Day / Year

VIII. Facility Owner *(See instructions)*

A. Name of Facility's Legal Owner: LILLY DEL CARIBE, INC.

Street or P.O. Box: CALL BOX 1198 PUEBLO STATION

City or Town: CAROLINA

State: PR

ZIP Code: 00628-1198

Phone Number *(Area Code and Number)*: 787-257-5555

B. Owner Type: P

C. Change of Owner Indicator: Yes [ ] No [X]

Date Changed: Month / Day / Year

IX. NAICS Codes *(in order of significance; start in left box)*

First	325411	Third	
(Description)	MEDICINAL AND BOTANICAL MANUFACTURING	(Description)	
Second		Fourth	
(Description)		(Description)	

X. Other Environmental Permits *(See instructions)*

A. Permit Type *(Enter code)*	B. Permit Number	C. Description
N	PR0000035 3	NPDES PERMIT - EQB
E	GDA883090 06	INDUSTRIAL DISCHARGE PERMIT -PRASA
E	PFE5004960436	OPERATION AIR PERMIT - EQB
E	RFI113989 6	WELL WATER EXTRACTION PERMIT - DNR
E	CAG920010RM	WWTP OPERATION PERMIT - EQB

EPA ID Number *(Enter from page 1)*

P R D 0 9 1 0 2 4 7 8 6

Secondary ID Number *(Enter from page 1)*

N A

XI. Nature of Business *(Provide a brief description)*

MANUFACTURING OF BULK PHARMACEUTICAL PRODUCTS.

XII. Process Codes and Design Capacities

A. **PROCESS CODE** - *Enter the code from the list of process codes below that best describes each process to be used at the facility. Thirteen lines are provided for entering codes. If more lines are needed, attach a separate sheet of paper with the additional information. For "other" processes (i.e., D99, S99, T04 and X99), describe the process (including its design capacity) in the space provided in item XIII.*

B. **PROCESS DESIGN CAPACITY** - *For each code entered in column A, enter the capacity of the process.*
1. **AMOUNT** - *Enter the amount. In a case where design capacity is not applicable (such as in a closure/post-closure or enforcement action) enter the total amount of waste for that process.*
2. **UNIT OF MEASURE** - *For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.*

C. **PROCESS TOTAL NUMBER OF UNITS** - *Enter the total number of units used with the corresponding process code.*

PROCESS CODE	PROCESS	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
	Disposal:	
D79	Underground Injection Well Disposal	Gallons; Liters; Gallons Per Day; or Liters Per Day
D80	Landfill	Acre-feet; Hectare-meter; Acres; Cubic Meters; Hectares; Cubic Yards
D81	Land Treatment	Acres or Hectares
D82	Ocean Disposal	Gallons Per Day or Liters Per Day
D83	Surface Impoundment Disposal	Gallons; Liters; Cubic Meters; or Cubic Yards
D99	Other Disposal	Any Unit of Measure Listed Below
	Storage:	
S01	Container	Gallons; Liters; Cubic Meters; or Cubic Yards
S02	Tank Storage	Gallons; Liters; Cubic Meters; or Cubic Yards
S03	Waste Pile	Cubic Yards or Cubic Meters
S04	Surface Impoundment Storage	Gallons; Liters; Cubic Meters; or Cubic Yards
S05	Drip Pad	Gallons; Liters; Acres; Cubic Meters; Hectares; or Cubic Yards
S06	Containment Building Storage	Cubic Yards or Cubic Meters
S99	Other Storage	Any Unit of Measure Listed Below
	Treatment:	
T01	Tank Treatment	Gallons Per Day; Liters Per Day; Short Tons Per Hour; Gallons Per Hour; Liters Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Metric Tons Per Day; or Metric Tons Per Hour
T02	Surface Impoundment Treatment	Gallons Per Day; Liters Per Day; Short Tons Per Hour; Gallons Per Hour; Liters Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Metric Tons Per Day; or Metric Tons Per Hour
T03	Incinerator	Short Tons Per Hour; Metric Tons Per Hour; Gallons Per Hour; Liters Per Hour; Btu Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Gallons Per Day; Liters Per Day; Metric Tons Per Hour; or Million Btu Per Hour
T04	Other Treatment	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; Btu Per Hour; Gallons Per Day; Liters Per Hour; or Million Btu Per Hour
T80	Boiler	Gallons; Liters; Gallons Per Hour; Liters Per Hour; Btu Per Hour; or Million Btu Per Hour
T81	Cement Kiln	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; Btu Per Hour; Liters Per Hour; Kilograms Per Hour; or Million Btu Per Hour
T82	Lime Kiln	
T83	Aggregate Kiln	
T84	Phosphate Kiln	
T85	Coke Oven	
T86	Blast Furnace	
T87	Smelting, Melting, Or Refining Furnace	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; Btu Per Hour; Gallons Per Hour; Liters Per Hour; or Million Btu Per Hour
T88	Titanium Dioxide Chloride Oxidation Reactor	
T89	Methane Reforming Furnace	
T90	Pulping Liquor Recovery Furnace	
T91	Combustion Device Used In The Recovery Of Sulfur Values From Spent Sulfuric Acid	
T92	Halogen Acid Furnaces	
T93	Other Industrial Furnaces Listed in 40 CFR §260.10	
T94	Containment Building - Treatment	Cubic Yards; Cubic Meters; Short Tons Per Hour; Gallons Per Hour; Liters Per Hour; Btu Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Metric Tons Per Day; Gallons Per Day; Liters Per Day; Metric Tons Per Hour; or Million Btu Per Hour
	Miscellaneous (Subpart X):	
X01	Open Burning/Open Detonation	Any Unit of Measure Listed Below
X02	Mechanical Processing	Short Tons Per Hour; Metric Tons Per Hour; Short Tons Per Day; Metric Tons Per Day; Pounds Per Hour; Kilograms Per Hour; Gallons Per Hour; Liters Per Hour; or Gallons Per Day
X03	Thermal Unit	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; Btu Per Hour; or Million Btu Per Hour
X04	Geologic Repository	Cubic Yards; Cubic Meters; Acre-feet; Hectare-meter; Gallons; or Liters
X99	Other Subpart X	Any Unit of Measure Listed Below

UNIT OF MEASURE	UNIT OF MEASURE CODE
Gallons	G
Gallons Per Hour	E
Gallons Per Day	U
Liters	L
Liters Per Hour	H
Liters Per Day	V
Short Tons Per Hour	D
Metric Tons Per Hour	W
Short Tons Per Day	N
Metric Tons Per Day	S
Pounds Per Hour	J
Kilograms Per Hour	R
Million Btu Per Hour	X
Cubic Yards	Y
Cubic Meters	C
Acres	B
Acre-feet	A
Hectares	Q
Hectare-meter	F
Btu Per Hour	I

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved, OMB No. 2050-0034 Expires 10/31/02
GSA No. 0248-EPA-OT

EPA ID Number (Enter from page 1)	Secondary ID Number (Enter from page 1)
P R D 0 0 9 1 1 0 2 4 7 8 6	N A

XII. Process Codes and Design Capabilities (Continued)

EXAMPLE FOR COMPLETING ITEM XII (shown in line number X-1 below): A facility has a storage tank which can hold 533,738 gallons.

Line Number	A. Process Code (From list above)	B. PROCESS DESIGN CAPACITY 1. Amount (Specify)	B. 2. Unit Of Measure (Enter code)	C. Process Total Number Of Units	For Official Use Only
X 1	S 0 2	5 3 3 7 3 8	G	0 0 1	
1	S 0 1	5 0.0 0 0	G	0 0 1	
2	S 0 2	2 7 2 0 0 0	G	0 1 0	
3	T 0 3	2 7.0 0 0	T	0 0 2	
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					

NOTE: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" processes (i.e., D99, S99, T04 and X99) in item XIII.

XIII. Other Processes (Follow instructions from item XII for D99, S99, T04 and X99 process codes)

Line Number (Enter as in seq. in XII)	A. Process Code (From list above)	B. PROCESS DESIGN CAPACITY 1. Amount (Specify)	B. 2. Unit Of Measure (Enter code)	C. Process Total Number Of Units	D. Description Of Process
X 1	T 0 4				In-situ Vitrification
1		NA			
2					
3					
4					

EPA ID Number *(Enter from page 1)*: P R D 0 9 1 0 2 4 7 8 6

Secondary ID Number *(Enter from page 1)*: N A

XIV. Description of Hazardous Wastes

A. **EPA HAZARDOUS WASTE NUMBER** - *Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR, Part 261 Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.*

B. **ESTIMATED ANNUAL QUANTITY** - *For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.*

C **UNIT OF MEASURE** - *For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:*

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. **PROCESSES**

1. **PROCESS CODES:**

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in item XII A. on page 3 to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous waste: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in item XII A. on page 3 to indicate all the processes that will be used to store, treat, and/ or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

1. *Enter the first two as described above.*
2. *Enter "000" in the extreme right box of item XIV-D(1).*
3. *Use additional sheet, enter line number from previous sheet, and enter additional code(s) in item XIV-E.*

2. **PROCESS DESCRIPTION:** *If a code is not listed for a process that will be used, describe the process in the space provided on the form (D.(2)).*

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER - Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. *Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.*
2. *In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.*
3. *Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.*

EXAMPLE FOR COMPLETING ITEM XIV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

Line Number	A. EPA HAZARD WASTE NO. (Enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESS (1) PROCESS CODES (Enter)	D. PROCESS (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
X 1	K 0 5 4	900	p	T 0 3 D 8 0	
X 2	D 0 0 2	400	P	T 0 3 D 8 0	
X 3	D 0 0 1	100	P	T 0 3 D 8 0	
X 4	D 0 0 2				Included With Above

XIV- Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (Enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1.	F002	15,000	T	S01	S02	T03	
2.	F003	15,000	T	S01	S02	T03	
3.	F004	100	T	S01	S02	T03	
4.	F005	15,000	T	S01	S02	T03	
5.	D001	15,000	T	S01	S02	T03	
6.	D002	12,000	P	S01			
7.	D003	5,000	P	S01			
8.	D004	1,000	P	S01			
9.	D005	1,000	P	S01			
10.	D006	1,000	P	S01			
11.	D007	1,000	P	S01			
12.	D008	1,000	P	S01			
13.	D009	1,000	P	S01			
14.	D010	1,000	P	S01			
15.	D011	1,000	P	S01			
16.	D012	1,000	P	S01	S02	T03	
17.	D013	1,000	P	S01	S02	T03	
18.	D014	1,000	P	S01	S02	T03	
19.	D015	1,000	P	S01	S02	T03	
20.	D016	1,000	P	S01	S02	T03	
21.	D017	1,000	P	S01	S02	T03	
22.	D018	5,000	P	S01	S02	T03	
23.	D019	10,000	P	S01	S02	T03	
24.	D020	10,000	P	S01			
25.	D021	5,000	P	S01	S02	T03	
26.	D022	12,000	P	S01	S02	T03	
27.	D023	1,000	P	S01	S02	T03	
28.	D024	1,000	P	S01	S02	T03	
29.	D025	1,000	P	S01	S02	T03	
30.	D026	1,000	P	S01	S02	T03	
31.	D027	5,000	P	S01	S02	T03	
32.	D028	5,000	P	S01	S02	T03	
33.	D029	5,000	P	S01	S02	T03	
34.	D030	1,000	P	S01	S02	T03	
35.	D031	1,000	P	S01	S02	T03	
36.	D032	1,000	P	S01	S02	T03	
37.	D033	1,000	P	S01	S02	T03	
38.	D034	1,000	P	S01			
39.	D035	12,000	P	S01	S02	T03	
40.	D036	1,000	P	S01	S02	T03	

XIV- Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (Enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE. (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
41.	D037	1,000	P	S01			
42.	D038	5,000	P	S01	S02	T03	
43.	D039	5,000	P	S01	S02	T03	
44.	D040	5,000	P	S01	S02	T03	
45.	D041	1,000	P	S01			
46.	D042	1,000	P	S01			
47.	D043	5,000	P	S01	S02	T03	
48.	U002	100,500	P	S01	S02	T03	
49.	U003	100,500	P	S01	S02	T03	
50.	U140	100,500	P	S01	S02	T03	
51.	U154	100,500	P	S01	S02	T03	
52.	U213	100,500	P	S01	S02	T03	
53.	U220	100,500	P	S01	S02	T03	
54.	U404	100,500	P	S01	S02	T03	
55.	U019	15,000	P	S01	S02	T03	
56.	U031	*	P	S01	S02	T03	* amount included in line 55
57.	U037	*	P	S01	S02	T03	"
58.	U044	*	P	S01	S02	T03	"
59.	U056	*	P	S01	S02	T03	"
60.	U080	*	P	S01	S02	T03	"
61.	U092	*	P	S01	S02	T03	"
62.	U112	*	P	S01	S02	T03	"
63.	U117	*	P	S01	S02	T03	"
64.	U159	*	P	S01	S02	T03	"
65.	U196	*	P	S01	S02	T03	"
66.	U211	*	P	S01	S02	T03	"
67.	U226	*	P	S01	S02	T03	"
68.	U228	*	P	S01	S02	T03	"
69.	U001	5,000	P	S01	S02	T03	
70.	U004	*	P	S01	S02	T03	* amount included in line 69
71.	U005	*	P	S01	S02	T03	"
72.	U006	*	P	S01	S02	T03	"
73.	U007	*	P	S01	S02	T03	"
74.	U008	*	P	S01	S02	T03	"
75.	U009	*	P	S01	S02	T03	"
76.	U010	*	P	S01	S02	T03	"
77.	U011	*	P	S01	S02	T03	"
78.	U012	*	P	S01	S02	T03	"
79.	U014	*	P	S01	S02	T03	"

XIV- Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (Enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
80.	U015	*	P	S01	S02	T03	"
81.	U016	*	P	S01	S02	T03	"
82.	U017	*	P	S01	S02	T03	"
83.	U018	*	P	S01	S02	T03	"
84.	U020	*	P	S01	S02	T03	"
85.	U021	*	P	S01	S02	T03	"
86.	U022	*	P	S01	S02	T03	"
87.	U023	*	P	S01	S02	T03	"
88.	U024	*	P	S01	S02	T03	"
89.	U025	*	P	S01	S02	T03	"
90.	U026	*	P	S01	S02	T03	"
91.	U027	*	P	S01	S02	T03	"
92.	U028	*	P	S01	S02	T03	"
93.	U029	*	P	S01	S02	T03	"
94.	U030	*	P	S01	S02	T03	"
95.	U032	*	P	S01	S02	T03	"
96.	U033	*	P	S01	S02	T03	"
97.	U034	*	P	S01	S02	T03	"
98.	U035	*	P	S01	S02	T03	"
99.	U036	*	P	S01	S02	T03	"
100.	U038	*	P	S01	S02	T03	"
101.	U039	*	P	S01	S02	T03	"
102.	U041	*	P	S01	S02	T03	"
103.	U042	*	P	S01	S02	T03	"
104.	U043	*	P	S01	S02	T03	"
105.	U045	*	P	S01	S02	T03	"
106.	U046	*	P	S01	S02	T03	"
107.	U047	*	P	S01	S02	T03	"
108.	U048	*	P	S01	S02	T03	"
109.	U049	*	P	S01	S02	T03	"
110.	U050	*	P	S01	S02	T03	"
111.	U051	*	P	S01	S02	T03	"
112.	U052	*	P	S01	S02	T03	"
113.	U053	*	P	S01	S02	T03	"
114.	U055	*	P	S01	S02	T03	"
115.	U057	*	P	S01	S02	T03	"
116.	U058	*	P	S01	S02	T03	"
117.	U059	*	P	S01	S02	T03	"
118.	U062	*	P	S01	S02	T03	"
119.	U063	*	P	S01	S02	T03	"

XIV- Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (Enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
120.	U064	*	P	S01	S02	T03	"
121.	U066	*	P	S01	S02	T03	"
122.	U067	*	P	S01	S02	T03	"
123.	U068	*	P	S01	S02	T03	"
124.	U069	*	P	S01	S02	T03	"
125.	U070	*	P	S01	S02	T03	"
126.	U071	*	P	S01	S02	T03	"
127.	U072	*	P	S01	S02	T03	"
128.	U073	*	P	S01	S02	T03	"
129.	U074	*	P	S01	S02	T03	"
130.	U075	*	P	S01	S02	T03	"
131.	U076	*	P	S01	S02	T03	"
132.	U077	*	P	S01	S02	T03	"
133.	U078	*	P	S01	S02	T03	"
134.	U079	*	P	S01	S02	T03	"
135.	U081	*	P	S01	S02	T03	"
136.	U082	*	P	S01	S02	T03	"
137.	U083	*	P	S01	S02	T03	"
138.	U084	*	P	S01	S02	T03	"
139.	U085	*	P	S01	S02	T03	"
140.	U086	*	P	S01	S02	T03	"
141.	U087	*	P	S01	S02	T03	"
142.	U088	*	P	S01	S02	T03	"
143.	U089	*	P	S01	S02	T03	"
144.	U090	*	P	S01	S02	T03	"
145.	U091	*	P	S01	S02	T03	"
146.	U093	*	P	S01	S02	T03	"
147.	U094	*	P	S01	S02	T03	"
148.	U095	*	P	S01	S02	T03	"
149.	U096	*	P	S01	S02	T03	"
150.	U097	*	P	S01	S02	T03	"
151.	U098	*	P	S01	S02	T03	"
152.	U099	*	P	S01	S02	T03	"
153.	U101	*	P	S01	S02	T03	"
154.	U102	*	P	S01	S02	T03	"
155.	U103	*	P	S01	S02	T03	"
156.	U105	*	P	S01	S02	T03	"
157.	U106	*	P	S01	S02	T03	"
158.	U107	*	P	S01	S02	T03	"
159.	U108	*	P	S01	S02	T03	"

XIV- Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (Enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
160.	U109	*	P	S01	S02	T03	"
161.	U110	*	P	S01	S02	T03	"
162.	U111	*	P	S01	S02	T03	"
163.	U113	*	P	S01	S02	T03	"
164.	U114	*	P	S01	S02	T03	"
165.	U115	*	P	S01	S02	T03	"
166.	U116	*	P	S01	S02	T03	"
167.	U118	*	P	S01	S02	T03	"
168.	U119	*	P	S01	S02	T03	"
169.	U120	*	P	S01	S02	T03	"
170.	U121	*	P	S01	S02	T03	"
171.	U122	*	P	S01	S02	T03	"
172.	U123	*	P	S01	S02	T03	"
173.	U124	*	P	S01	S02	T03	"
174.	U125	*	P	S01	S02	T03	"
175.	U126	*	P	S01	S02	T03	"
176.	U127	*	P	S01	S02	T03	"
177.	U128	*	P	S01	S02	T03	"
178.	U129	*	P	S01	S02	T03	"
179.	U130	*	P	S01	S02	T03	"
180.	U131	*	P	S01	S02	T03	"
181.	U132	*	P	S01	S02	T03	"
182.	U133	*	P	S01	S02	T03	"
183.	U134	*	P	S01	S02	T03	"
184.	U135	*	P	S01	S02	T03	"
185.	U136	*	P	S01	S02	T03	"
186.	U137	*	P	S01	S02	T03	"
187.	U138	*	P	S01	S02	T03	"
188.	U141	*	P	S01	S02	T03	"
189.	U142	*	P	S01	S02	T03	"
190.	U143	*	P	S01	S02	T03	"
191.	U144	*	P	S01	S02	T03	"
192.	U145	*	P	S01	S02	T03	"
193.	U146	*	P	S01	S02	T03	"
194.	U147	*	P	S01	S02	T03	"
195.	U148	*	P	S01	S02	T03	"
196.	U149	*	P	S01	S02	T03	"
197.	U150	*	P	S01	S02	T03	"
198.	U151	*	P	S01	S02	T03	"
199.	U152	*	P	S01	S02	T03	"

XIV- Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (Enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
200.	U153	*	P	S01	S02	T03	"
201.	U155	*	P	S01	S02	T03	"
202.	U156	*	P	S01	S02	T03	"
203.	U157	*	P	S01	S02	T03	"
204.	U158	*	P	S01	S02	T03	"
205.	U160	*	P	S01	S02	T03	"
206.	U161	*	P	S01	S02	T03	"
207.	U162	*	P	S01	S02	T03	"
208.	U163	*	P	S01	S02	T03	"
209.	U164	*	P	S01	S02	T03	"
210.	U165	*	P	S01	S02	T03	"
211.	U166	*	P	S01	S02	T03	"
212.	U167	*	P	S01	S02	T03	"
213.	U168	*	P	S01	S02	T03	"
214.	U169	*	P	S01	S02	T03	"
215.	U170	*	P	S01	S02	T03	"
216.	U171	*	P	S01	S02	T03	"
217.	U172	*	P	S01	S02	T03	"
218.	U173	*	P	S01	S02	T03	"
219.	U174	*	P	S01	S02	T03	"
220.	U176	*	P	S01	S02	T03	"
221.	U177	*	P	S01	S02	T03	"
222.	U178	*	P	S01	S02	T03	"
223.	U179	*	P	S01	S02	T03	"
224.	U180	*	P	S01	S02	T03	"
225.	U181	*	P	S01	S02	T03	"
226.	U182	*	P	S01	S02	T03	"
227.	U183	*	P	S01	S02	T03	"
228.	U184	*	P	S01	S02	T03	"
229.	U185	*	P	S01	S02	T03	"
230.	U186	*	P	S01	S02	T03	"
231.	U187	*	P	S01	S02	T03	"
232.	U188	*	P	S01	S02	T03	"
233.	U189	*	P	S01	S02	T03	"
234.	U190	*	P	S01	S02	T03	"
235.	U191	*	P	S01	S02	T03	"
236.	U192	*	P	S01	S02	T03	"
237.	U193	*	P	S01	S02	T03	"
238.	U194	*	P	S01	S02	T03	"
239.	U197	*	P	S01	S02	T03	"

XIV. Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (Enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
240.	U200	*	P	S01	S02	T03	"
241.	U201	*	P	S01	S02	T03	"
242.	U202	*	P	S01	S02	T03	"
243.	U203	*	P	S01	S02	T03	"
244.	U204	*	P	S01	S02	T03	"
245.	U205	*	P	S01	S02	T03	"
246.	U206	*	P	S01	S02	T03	"
247.	U207	*	P	S01	S02	T03	"
248.	U208	*	P	S01	S02	T03	"
249.	U209	*	P	S01	S02	T03	"
250.	U210	*	P	S01	S02	T03	"
251.	U214	*	P	S01	S02	T03	"
252.	U215	*	P	S01	S02	T03	"
253.	U216	*	P	S01	S02	T03	"
254.	U217	*	P	S01	S02	T03	"
255.	U218	*	P	S01	S02	T03	"
256.	U219	*	P	S01	S02	T03	"
257.	U221	*	P	S01	S02	T03	"
258.	U222	*	P	S01	S02	T03	"
259.	U223	*	P	S01	S02	T03	"
260.	U225	*	P	S01	S02	T03	"
261.	U227	*	P	S01	S02	T03	"
262.	U234	*	P	S01	S02	T03	"
263.	U235	*	P	S01	S02	T03	"
264.	U236	*	P	S01	S02	T03	"
265.	U237	*	P	S01	S02	T03	"
266.	U238	*	P	S01	S02	T03	"
267.	U239	*	P	S01	S02	T03	"
268.	U240	*	P	S01	S02	T03	"
269.	U243	*	P	S01	S02	T03	"
270.	U244	*	P	S01	S02	T03	"
271.	U246	*	P	S01	S02	T03	"
272.	U247	*	P	S01	S02	T03	"
273.	U248	*	P	S01	S02	T03	"
274.	U249	*	P	S01	S02	T03	"
275.	U328	*	P	S01	S02	T03	"
276.	U353	*	P	S01	S02	T03	"
277.	U359	*	P	S01	S02	T03	"
278.	P028	100,500	P	S01	S02	T03	
279.	P001	5000	P	S01			

XIV- Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (Enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)		(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
280.	P002	*	P	S01		* amount included in line 280
281.	P003	*	P	S01		"
282.	P004	*	P	S01		"
283.	P005	*	P	S01		"
284.	P006	*	P	S01		"
285.	P007	*	P	S01		"
286.	P008	*	P	S01		"
287.	P009	*	P	S01		"
288.	P010	*	P	S01		"
289.	P011	*	P	S01		"
290.	P012	*	P	S01		"
291.	P013	*	P	S01		"
292.	P014	*	P	S01		"
293.	P015	*	P	S01		"
294.	P016	*	P	S01		"
295.	P017	*	P	S01		"
296.	P018	*	P	S01		"
297.	P020	*	P	S01		"
298.	P021	*	P	S01		"
299.	P022	*	P	S01		"
300.	P023	*	P	S01		"
301.	P024	*	P	S01		"
302.	P026	*	P	S01		"
303.	P027	*	P	S01		"
304.	P029	*	P	S01		"
305.	P030	*	P	S01		"
306.	P031	*	P	S01		"
307.	P033	*	P	S01		"
308.	P034	*	P	S01		"
309.	P036	*	P	S01		"
310.	P037	*	P	S01		"
311.	P038	*	P	S01		"
312.	P039	*	P	S01		"
313.	P040	*	P	S01		"
314.	P041	*	P	S01		"
315.	P042	*	P	S01		"
316.	P043	*	P	S01		"
317.	P044	*	P	S01		"
318.	P045	*	P	S01		"
319.	P046	*	P	S01		"

XIV- Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (Enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
320.	P047	*	P	S01			"
321.	P048	*	P	S01			"
322.	P049	*	P	S01			"
323.	P050	*	P	S01			"
324.	P051	*	P	S01			"
325.	P054	*	P	S01			"
326.	P056	*	P	S01			"
327.	P057	*	P	S01			"
328.	P058	*	P	S01			"
329.	P059	*	P	S01			"
330.	P060	*	P	S01			"
331.	P062	*	P	S01			"
332.	P063	*	P	S01			"
333.	P064	*	P	S01			"
334.	P065	*	P	S01			"
335.	P066	*	P	S01			"
336.	P067	*	P	S01			"
337.	P068	*	P	S01			"
338.	P069	*	P	S01			"
339.	P070	*	P	S01			"
340.	P072	*	P	S01			"
341.	P073	*	P	S01			"
342.	P074	*	P	S01			"
343.	P075	*	P	S01			"
344.	P076	*	P	S01			"
345.	P077	*	P	S01			"
346.	P078	*	P	S01			"
347.	P081	*	P	S01			"
348.	P082	*	P	S01			"
349.	P084	*	P	S01			"
350.	P085	*	P	S01			"
351.	P087	*	P	S01			"
352.	P088	*	P	S01			"
353.	P092	*	P	S01			"
354.	P093	*	P	S01			"
355.	P094	*	P	S01			"
356.	P095	*	P	S01			"
357.	P096	*	P	S01			"
358.	P097	*	P	S01			"
359.	P098	*	P	S01			"

XIV- Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (Enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)			(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
360.	P099	*	P	S01			"
361.	P101	*	P	S01			"
362.	P102	*	P	S01			"
363.	P103	*	P	S01			"
364.	P104	*	P	S01			"
365.	P105	*	P	S01			"
366.	P106	*	P	S01			"
367.	P108	*	P	S01			"
368.	P109	*	P	S01			"
369.	P110	*	P	S01			"
370.	P111	*	P	S01			"
371.	P112	*	P	S01			"
372.	P113	*	P	S01			"
373.	P114	*	P	S01			"
374.	P115	*	P	S01			"
375.	P116	*	P	S01			"
376.	P118	*	P	S01			"
377.	P119	*	P	S01			"
378.	P120	*	P	S01			"
379.	P121	*	P	S01			"
380.	P122	*	P	S01			"
381.	P123	*	P	S01			"

FIGURE A-1

LOCATION MAP

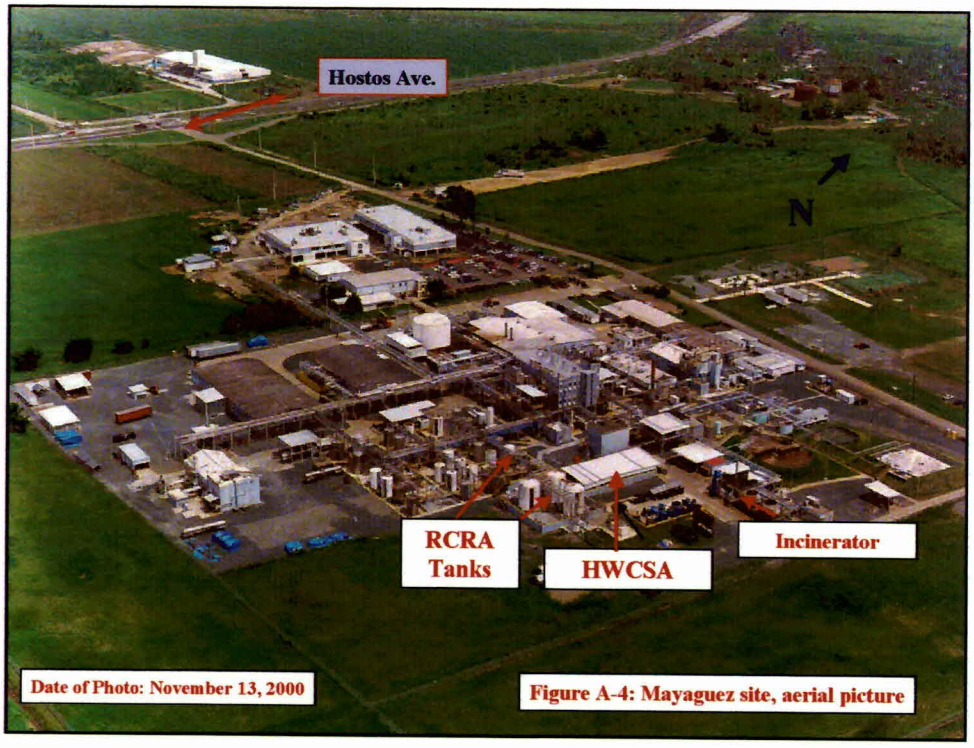

Figure A-4: Mayaguez site, aerial picture

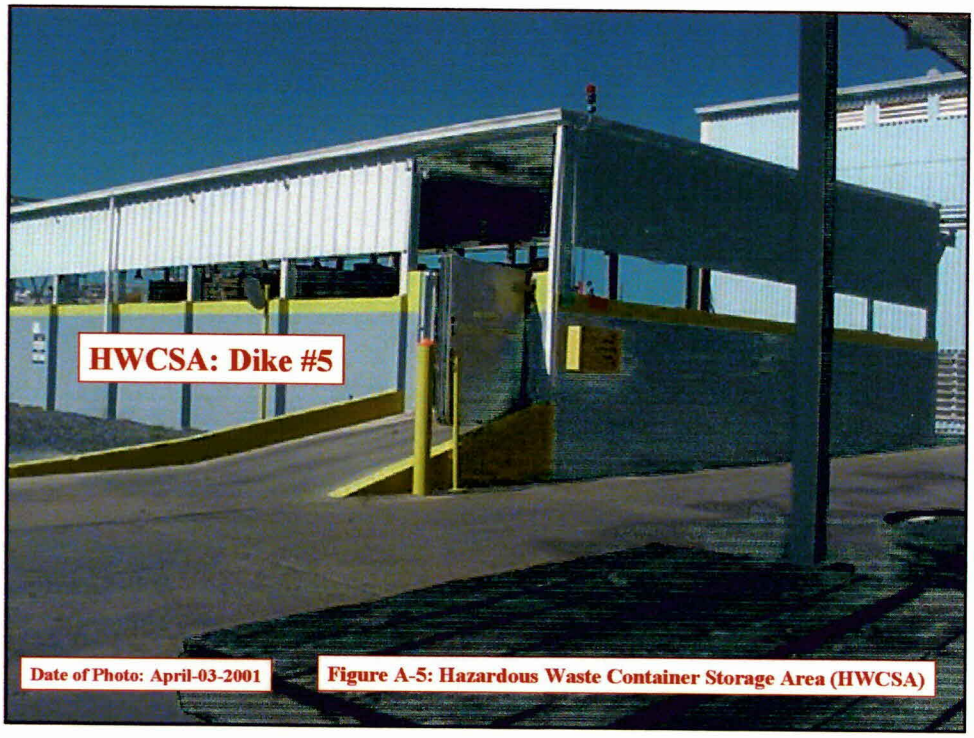

Figure A-5: Hazardous Waste Container Storage Area (HWCSA)

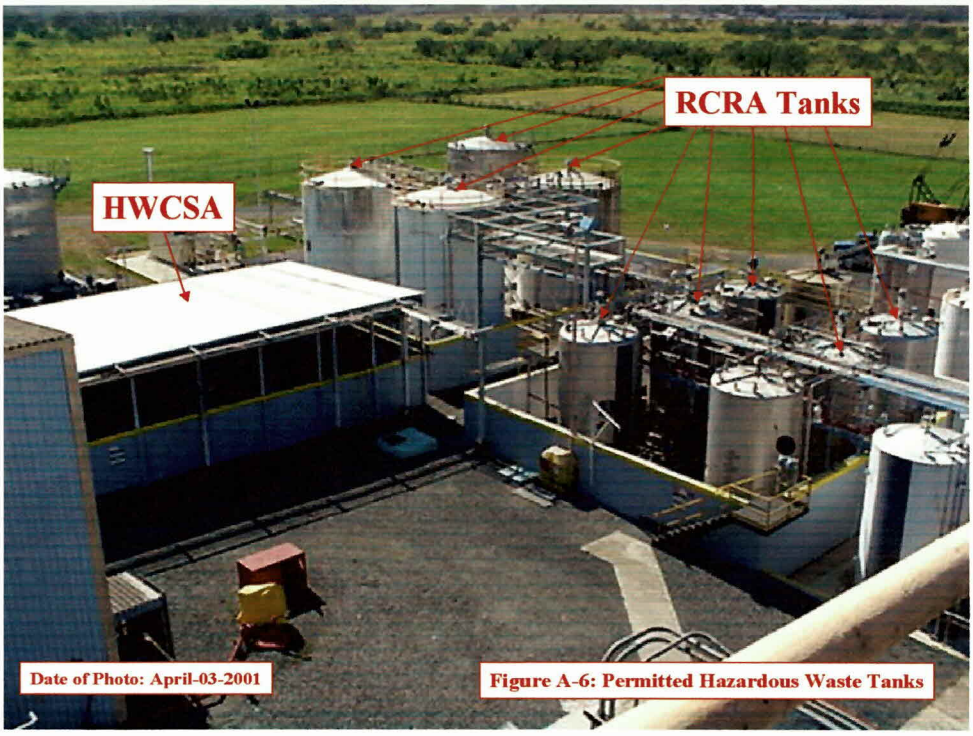

Figure A-6: Permitted Hazardous Waste Tanks

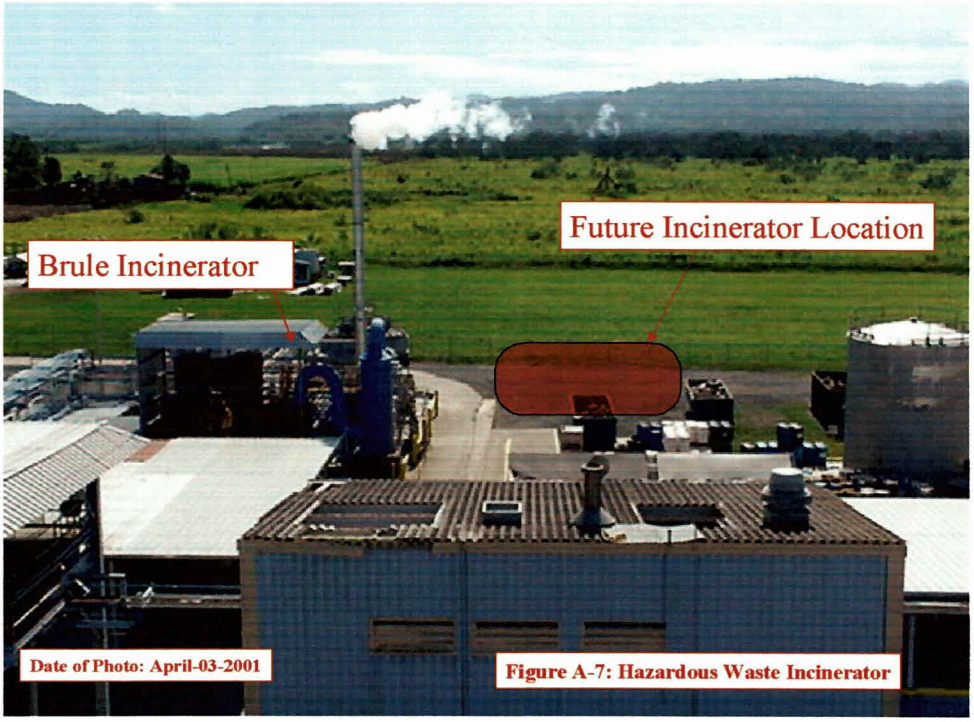

Figure A-7: Hazardous Waste Incinerator